The Croonian Lectures

ON THE

PHARMACOLOGICAL ACTION AND THERAPEUTIC USES OF THE NITRITES AND ALLIED COMPOUNDS.

Delivered at the Royal College of Physicians of London on June 20th,

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LECTURE I.

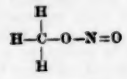
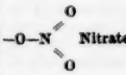
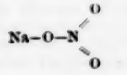
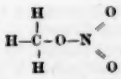
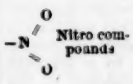
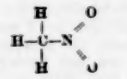
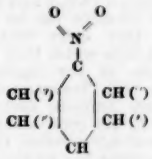
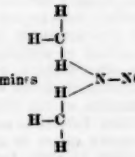
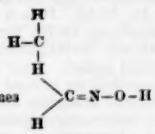
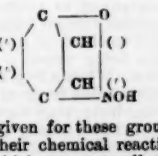
IN the Croonian Lectures for 1890 Dr. Lauder Brunton set forth with a master's hand the position of our knowledge with regard to the relationship which exists between chemical composition and physiological action. He pointed out the structure of the leading types of organic compounds and explained the influence which both structure and composition have in determining their physiological action. In the lectures I have the honour of being invited to give my *rôle* will be a more limited one. I propose to take up one of the many series of groups with which Dr. Brunton dealt, and, if possible, to add something to our knowledge concerning it and thus aid in fulfilling the purpose for which the Croonian Lectures have been instituted.

ACTION OF ELEMENTS AND GROUPS OF ELEMENTS.

When a medicinal substance enters into the circulation the molecules of which it is constituted, or those resulting from such chemical modification as it undergoes, come into contact with certain tissues to which they are specially related, and, influencing these tissues, produce the alterations in the function of the various organs which we include under the term of "pharmacological action." Into the cause of the relationship or affinity which seems to exist between the molecules of chemical compounds and the tissues they influence we have not yet penetrated, nor do we know how the ultimate constituents of the tissues are so acted upon that modification of function is produced; but, so far as the chemical compounds themselves are concerned, we have evidence that their effects are in some way the result of the influence of the separate element or groups of elements of which they are built up and of the method in which these elements or groups are conjoined. Some elements make their presence felt pharmacologically in a distinctive manner, the definite effect of others we can hardly determine. It has been shown that many metals—as, for example, potassium, calcium and barium—exercise a definite influence on muscular tissues of the body. Chlorine, bromine and iodine have also, as Binz many years ago pointed out, a special action on nerve cells. In O, H, C, and N we have elements the pharmacological offices of which are so widespread and varied that we cannot at present define their sphere of influence; they, however, unite to form groups of which the specific effect can be distinctly shown. The alcoholic radicles or alkyles, such as methyl, CH_3, tend to give the compounds into which they enter a power of depressing the functions of the higher cerebral centres, and hence producing sleep or general anæsthesia. The group NH_2, like ammonia compounds generally, has a stimulant effect on the medulla and spinal cord. There are even indications that the small group hydroxyl, OH, has itself a peculiar influence, though probably this influence is widespread and varied.

GROUPS CONTAINING OXYGEN AND NITROGEN.

Amongst the many groups concerning which more information is wanted are those which contain oxygen and nitrogen. They enter into the composition of many substances used in medicine and of a still greater number which may be found to have therapeutic value. In these nitrogen is combined with one or more atoms of oxygen. The following table sets forth the groups of these two elements, to which I propose to call attention:—

GROUPS.		EXAMPLES.	
O–N=O	Nitrites	Na–O–N=O	$NaNO_2$ Sodium nitrite
			CH_3NO_2 Methyl nitrite
	Nitrates		$NaNO_3$ Sodium nitrate
			CH_3NO_2 Methyl nitrate
	Nitro compounds		CH_3NO_2 Nitro-methane
			$C_6H_5NO_2$ Nitro-benzene
	Nitrosamines		$(C_2H_5)_2NNO$ Dimethyl nitrosamine
–ON=NO–	Hypo-nitrites	Na–O–N=N–O–Na	$Na_2N_2O_2$ Sodium hyponitrite
			CH_3CHNOH Aldoxime
			C_6H_4ONOH Nitroso-phenol

The formulæ given for these groups and their compounds are founded on their chemical reactions and decompositions, and are those which are generally accepted as representing their structure. The first or nitrite group consists of an atom of triad nitrogen which has two of its affinities satisfied by an oxygen, whilst the third is attached to a second oxygen. The second oxygen atom has thus one of its links left free. Nitrogen, it is well known, at times plays the part of a pentad element, and it is supposed by chemists to do so in the second or nitrate group. Here four of the affinities of the pentad nitrogen atoms are satisfied by two oxygen elements, whilst to the fifth link is attached a third atom of oxygen which serves to couple the molecule with other groups. In the next or nitro group, the nitrogen is also probably pentad and has attached to it two atoms of oxygen. It will be noted that this group is isomeric with the nitrite group, but owing to the difference in structure the corresponding compounds into which the group enters have not the same pharmacological, chemical or physical properties.

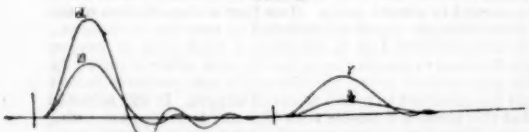
In the nitrosamines, as in the nitrite group, we have a triad nitrogen, two links of which are satisfied by an oxygen atom, the third having attached to it a nitrogen element. It is usual to regard hyponitrites as containing a group,

NO, united directly to the other element of the compound, hyponitrous acid being looked upon as HNO, and sodium hyponitrite as NaNO. But the recent researches of Zorn and others seem to have proved that the acid and its salts are diazo compounds, and I have thus represented them in the table. The last group, the oximes, consists of a group, NOH, the nitrogen of which is united to a carbon element. It will be seen that the groups of nitrogen and oxygen given on the list enter into metallic, fatty and aromatic compounds. I propose, however, confining my remarks almost entirely to the metallic and fatty compounds containing them, and even concerning these the observations I have to record must be regarded as the result of a preliminary investigation only of their properties.

METHODS IN WHICH GROUPS OF ELEMENTS IN COMPOUNDS PRODUCE THEIR EFFECT.

Before speaking of the influence exerted by the groups of molecules to which I have drawn attention it may be well if I briefly discuss the methods in which they may produce their effects on the tissues. It will be noted that whilst the compounds into which they enter—nitrite of sodium and nitrate of sodium, for example—have an independent existence, the molecules themselves are not known in a separate form, yet there is evidence that, like the radicles of the fatty series (CH_3, &c.), amidgen (NH_2), and hydroxyl (OH), their special physiological influence can be traced through the various compounds they enter into, modified, of course, by other molecules with which they are associated. The action of the nitrites of the alkaline and earthy metals on muscular tissue will illustrate this. When the excised muscles of certain animals, such as the frog, are placed in a 0·6 to 0·75 per cent. solution of sodium chloride, the so-called normal salt solution, they continue to live and behave under stimulation in a fairly uniform manner, provided they are exposed to exactly similar conditions. If the contractions of corresponding muscles are registered by a myograph they always yield characteristic tracings, which, though influenced by the method of excision, temperature, season of the year and many other factors, yet correspond in character provided the circumstances under which the curves are taken are alike. The duration of the life of the muscle too is, if these conditions are fulfilled, much the same. Fig. 1 represents a muscle curve taken in normal salt solution. As I shall have occasion to refer frequently to the influence on muscle tissue of the substances I am about to speak of in these lectures I may here take the opportunity of explaining that I have estimated this influence by means of an apparatus devised by Dr. Wild. It is a modification of the instrument originally employed by Dr. Brunton and Professor Cash in their well-known investigations on chemical constitution and physiological action. The excised gastrocnemius of the frog is surrounded by normal salt solution to be tested, and when it contracts from the effect of a break current the character of the contractions produced is represented in the usual way by a lever writing on the revolving drum. It is sometimes convenient to estimate the vitality and contractile power of muscles without taking curves. For this purpose contractions are recorded on a stationary drum every few minutes, the drum being moved a short distance between each new contraction. When a frog's gastrocnemius is surrounded by normal salt solution for from ten to twenty minutes the curves change but little; then they fall gradually until the death of the muscle in about twenty-four hours. This diagram, like all the others, is taken by the camera from an actual tracing; for the sake of clearness only a few of the curves have been reproduced. Below are represented the contractions of muscle in normal saline solution taken at regular intervals and recorded on a stationary drum for six hours. The muscle was then left in the solution all night.

FIG. 1.

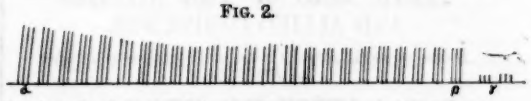


α Normal muscle curve immediately after preparation; β after standing one hour in normal salt solution; γ four hours after; δ twenty-four hours after.

The small contractions at the right hand, taken twenty-four hours after, were produced by the full strength of the induction current and simply show that the muscle was not then dead.

The influence which the addition of small quantities of alkaline and earthy metals to normal salt solution has on muscular contraction and life has been investigated by Dr. Brunton and Professor Cash and Dr. Ringer. Figs. 3 and 12 show the effect of 1 part of barium chloride and calcium chloride added to 1000 parts of normal saline solution on muscles. Barium chloride increases the contractile power of the muscle and alters the shape of the curve; it causes, too,

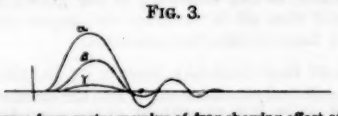
FIG. 2.



Muscle contractions recorded on stationary drum; α to β at intervals for six hours; γ after twenty-four hours.

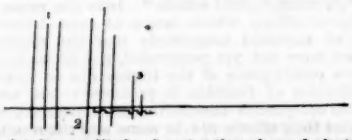
contracture and kills the muscle in three or four hours. Calcium increases the contractile power of the muscles and causes contracture, but tends to maintain the vitality of muscle which lives for more than twenty-four hours. That the effect produced on the contractions is not due to increased density of the fluid surrounding the muscle is proved by the fact that 1 in 1000 of chloride of sodium added to a normal salt solution does not in any way influence contraction or vitality. Now, if we compare these muscle tracings with those produced by the addition of 1 in 1000 of the corresponding nitrites, we see at once that the nitrite element has a very distinct effect. In this strength of sodium nitrite solution the contractions become less strong, and in from thirty to forty minutes the muscle fails to respond to stimulation and is dead. If we place a muscle in a 0·75 per cent. of sodium nitrite the muscle dies in from fifteen to twenty minutes.

FIG. 3.



Muscle curve from gastrocnemius of frog showing effect of 1 in 1000 $NaNO_2$ in normal salt solution. α, normal curve; β, fourteen minutes after addition of nitrite; γ, twenty-four minutes after.

FIG. 4.



Tracing showing amplitude of contraction of muscle in 1 in 1000 $NaNO_2$ solution. (1) Normal contractions; (2) sodium nitrite introduced; (3) contractions fifteen minutes afterwards.

FIG. 5.

Tracing showing amplitude of muscle contraction in 0·75 per cent. $NaNO_2$ solution. (1) Normal contraction; (2) 0·75 of sodium chloride solution replaced by 0·75 of sodium nitrite; (3) fifteen minutes afterwards.

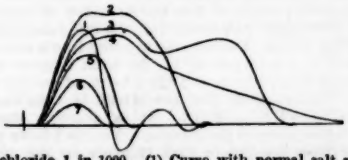
FIG. 6.

Tracing showing that nerve stimulation is as effective as direct stimulation of muscle when immersed in 1 in 1000 $NaNO_2$ solution. (1) Normal muscle contraction; (2 and 3) normal nerve contractions; (4) muscle; (5) nerve; (6) muscle; (7) nerve; (8) muscle; (9) nerve.

When 1 in 1000 of barium nitrite is added to the normal salt solution the contractions at first produced by stimulation have the characteristic peculiarity of barium, but not so well marked as in the case of the chloride; but rapidly, much more rapidly than with the same quantity of chloride of

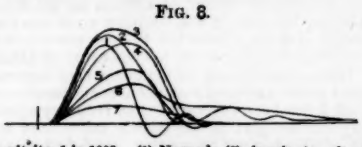
barium, the contracture is annulled. The contractile power decreases and the muscle dies in thirty minutes. If a smaller quantity of barium nitrite be used—such as 1 in 2000 to 1 in 5000—the barium contracture may not occur. If we

FIG. 7.



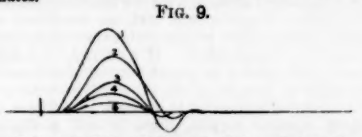
Barium chloride, 1 in 1000. (1) Curve with normal salt solution; (2) fifteen minutes after barium chloride was added; (3) twenty minutes after; (4) thirty minutes after; (5) forty-five minutes after; (6) one hour after; (7) two hours after.

FIG. 8.



Barium nitrite, 1 in 1000. (1) Normal; (2) six minutes after barium chloride; (3) twelve minutes after; (4) twenty-four minutes; (5) twenty-seven minutes; (6) thirty minutes; (7) thirty-three minutes.

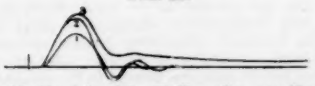
FIG. 9.



Barium nitrite, 1 in 5000. (1) Normal; (2) ten minutes after barium chloride; (3) fifteen minutes after; (4) twenty-five minutes; (5) thirty-three minutes.

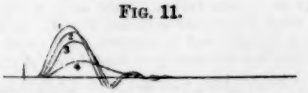
compare the effects produced on muscle by the same metallic elements with ONO_2 we note a striking difference. Whilst sodium nitrite is a poison causing the muscle quickly to lose its contractile power and vitality, sodium nitrate is in small proportions quite as favourable to the vitality of muscle as is chloride of sodium itself. A muscle in a 0·6 to 0·75 per cent. solution of sodium nitrate will contract as well and live as long as a muscle in normal saline. Strong solutions of the nitrate, like strong solutions of sodium chloride, will of course kill muscle quickly. The difference between the physical properties of nitrite and nitrate solutions of the same metals of equal strengths will not account for the great differences between their physiological effects on muscle and other tissue. It must be due to the action of the acid molecules ONO and ONO_2. The way in which such molecules as ONO and ONO_2 produce their effects it may not be possible to determine with certainty; yet the matter is worthy of some consideration. The specific changes which a chemical compound produces in tissues must be due to the influence, chemical or molecular, exerted on the ultimate elements of the tissue (1) by the large molecules of the compound itself, or (2) by new molecules resulting from decomposition of these larger molecules. When complex molecules enter the body they not infrequently undergo decomposition, and their elements are broken up into new groups. When, however, metallic nitrites and nitrates act on muscle tissue we have no absolute evidence that any decomposition takes place. Binz, in speaking of the action of nitrites on the nervous system, has suggested that when nitrates are taken nitrous acid, HNO_2, is set free and decomposed, HNO_2 and NO being formed. He attributes the effects of nitrites on the nerve cells to these products of decomposition, but especially to active oxygen, which he holds is formed. There is evidence that such changes as he indicates may take place, for in the body HNO_2 is to some extent oxidised and HNO_3 formed; but there is no proof that such oxidation is necessarily the antecedent of the physiological effects on tissue, especially on muscular tissue, which nitrites produce. I have been unable to obtain any indication of the oxidation of nitrites during muscle contraction and their influence on muscle is in no sense akin to that produced by free acid, the formation of which should precede, or at least accompany, the changes he speaks of. It seems more probable that the influence exerted by nitrites and nitrates is due directly to the molecules of which they are composed acting on the tissue elements. It is possible for a chemical compound built up of two or more molecules to act in two ways (1) as a whole molecule, the influence being the resultant of the molecules of which it is composed, or (2) each of the molecules may divide partnership, and each may influence the tissues in its own peculiar way, the general result being the outcome, as it were, of two separate actions. It is probable that in a large number of chemical compounds it is the whole molecule which influences the tissue elements, and it may then produce an effect which is intermediate between the action of each of its constituent molecules and allied to both, or its influence may be quite different to either of them; but there are some grounds, I think, for believing that the constituent molecules of a compound may act separately, and it seems to me the nitrites and nitrates are probably an example of such separate action. The marked individuality and uniformity of the influence of the ONO group in its various compounds, which I have pointed out and shall still further illustrate in other tissues, may, I think, be taken as an indication of this, and the difference I have noted between the action of smaller and larger amounts of some of the metallic nitrites on muscle seems to me to support the view. If we expose a muscle to 1 in 1000 of barium nitrite we see, as I have pointed out already, what may be called the barium effect—that is, the prolonged and heightened contraction and contracture, though distinctly less than in the case of barium chloride, is still at first well marked, but it gradually disappears, and the curve becomes smaller and the muscle dies. When, however, instead of 1 in 1000 of barium nitrite we use a smaller amount, say 1 in 5000, the distinct barium effect on the form of the curve is at times absent, though the muscle dies almost as quickly. In the action of calcium nitrite the conditions are reversed. It will be seen from the

FIG. 10.



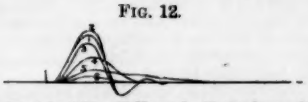
Calcium chloride, 1 in 1000. (1) Normal curve; (2) one hour after; 3) five hours after.

FIG. 11.



Calcium nitrite, 1 in 1000. (1) Normal tracing; (2) one hour after calcium nitrite; 3) two hours; (4) three hours.

FIG. 12.



Calcium nitrite, 1 in 5000. (3) Normal; (2) one hour after calcium chloride; (1) two hours after; (4) three hours after; (5) four hours; (6) five hours.

curves on the diagram that when a small quantity of calcium nitrite (1 in 5000) is used the peculiarities of the calcium tracing are preserved and the vitality of the muscle is scarcely interfered with; in stronger solutions (1 in 500 to 1000) the nitrite influence overwhelms the calcium influence. The increase in the height of curve which calcium produces is almost annulled, and we no longer see the effect of calcium in promoting vitality; the muscle dies in four hours, whilst in a similar solution of calcium chloride good contractions can be obtained after twenty-four hours. It seems to me that the curious difference in kind as well as in degree between the effects of small or large quantities of such compounds of barium and calcium on muscle tissue lends some support, though it may be but slight, to the view that the influence which they and similar compounds exert on tissue may be due to the separate and distinct action of the molecules of which the compound is built up. A difficulty in the way of accepting this view is that we have, as a consequence, to allow definite and specific powers to groups of molecules which we cannot prove actually to exist; whether the difficulty will in any way be bridged over by the theory of "ions," which in the last few years has found increasing acceptance in the chemical world, remains to be seen.

THE NITRITE OR THE NITROXYL GROUP.

I turn now to the first group on the list of oxygen and

nitrogen molecules, the nitrites or ONO—or, as it is sometimes called, the nitroxyl group. I propose to draw attention to the nitrites of sodium, potassium, calcium, barium, and also to the following organic nitrites: Ethyl nitrite, C_2H_5ONO, isopropyl nitrite, C_3H_7ONO, isobutyl nitrite, C_4H_9ONO, and amyl nitrite, $C_5H_{11}ONO$, though I shall not of course pretend to give a detailed account of them.

GENERAL CHARACTERS.

Nitrous acid (HNO_2) itself is not known as a definite compound in a pure state. When nitrogen trioxide, N_2O_3, is passed into cold water nitrous acid is produced. It is formed, too, when metallic nitrites are acted on by weak acids and the organic nitrites yield it in contact with water or its vapour. It is an unstable compound at ordinary temperatures, and decomposes rapidly, nitric acid and nitric oxide being formed. Nitrite of sodium and potassium are deliquescent salts, neutral or slightly alkaline, and very soluble in water. Nitrous acid is very easily decomposed by dilute acids. The nitrites of calcium, barium and strontium are like the alkaline nitrites in these two points. The double nitrite of cobalt and potassium, or Fischer's salt is very slightly soluble in water. According to Atkinson, it is more easily decomposed by acids than the other nitrites, but my experiments on this point have not accorded with his. I find it less easily decomposed than the other nitrites. Ethyl nitrite is a volatile liquid, boiling at 62·6° F. It is insoluble in water at 32°, but very soluble in alcohol. When an alcoholic solution is mixed with water effervescence takes place—which is due, not to the decomposition of the ethyl nitrite, but to its separation and escape; a portion of the ethyl nitrite remaining dissolved decomposes, and the mixture at once becomes acid owing to the formation of nitrous acid. The amount of ethyl nitrite remaining in solution varies greatly. I find that when a drachm of a 2½ per cent. solution of ethyl nitrite is added to an ounce of water at least 50 per cent. of the nitrite is at once dissipated. Dilute acids do not immediately decompose ethyl nitrite. It is probable, however, that they hasten decomposition of nitrite in large quantities of water. The vapour of ethyl nitrite is converted into nitrous acid in the presence of watery vapour. Propyl nitrite is a volatile liquid, boiling at 110° to 115° F. Isobutyl nitrite has a still higher boiling point—152·6°. It is a pale yellow liquid with a fragrant odour. Nitrite of amyl is a yellow ethereal liquid. It is insoluble in water and is decomposed by contact with water, nitrous acid being set free, but not nearly so rapidly as ethyl nitrite.

ABSORPTION, COURSE AND EXCRETION.

Nitrous acid decomposes very rapidly, but it is not so quickly destroyed that absorption from the stomach cannot take place when it is taken internally. When absorbed it is no doubt at once converted into an alkaline nitrite, for it can replace carbonic acid in its sodium compounds and convert normal sodium phosphate into acid phosphate, sodium nitrite being at the same time formed.

Sodium Nitrite.—When mixed with artificial gastric juice and put in an incubator at 30° C. solutions of sodium nitrite are rapidly decomposed and nitrous fumes given off, and all nitrite disappears in about twenty minutes. The same change takes place in the stomach, as is testified by the nitrous eructations which at times follow the administration of sodium nitrite. Probably some of the nitrite of sodium is absorbed as well as some of the nitrous acid produced by its partial decomposition, the relative amounts depending on the acidity of the stomach at the time of administration. Manifestly it very quickly passes from the stomach into the system, for its effects on the circulation are usually distinctly visible in from two to five minutes. A portion of the nitrite taken is excreted in the urine unchanged. I have found it after a dose of six grains of sodium nitrite. After smaller doses I have been unable to detect it, but the test for nitrites in the urine is not so delicate as in water, and minute quantities will in acid urine be rapidly destroyed. Whether nitrites are eliminated in the saliva and perspiration it is not easy to say, since they are sometimes found there normally, but they can certainly be excreted by the stomach after injection into the circulation. Dr. Gamgee informs me that in a dog poisoned by the injection, first of small then of large doses of sodium nitrite into the jugular vein, the contents of the stomach, examined immediately after death, were found by him to give clearly the nitrite reaction with the metaphenylendiamine test. The contents of the duodenum and jejunum likewise gave perceptible nitrite reaction. Probably only a small amount is thus usually excreted; the urine in the dog seemed to contain ten times as much nitrite as the stomach contents. Not a trace of nitrite could be found in the bile, which was also carefully examined. In another dog the contents of the stomach gave a strong nitrite reaction. There can be no doubt therefore that the stomach is capable of excreting as well as absorbing nitrites. It is certain, however, that a considerable portion of the nitrite taken is oxydised into nitrate. Röhmann[1] recovered from the urine as nitrate 46 per cent. of the nitrite of sodium he injected into a rabbit, and in the case of a dog 36 per cent. In what manner and when nitrates are formed from nitrites we can of course only conjecture. Binz suggests that the nitrite is thus broken up—$3HNO_2 = H_2O + HNO_3 + 2NO$. It is possible that such a change takes place in the tissues. Yet, as I have previously said, we have no proofs that it leads to the phenomena observed when muscles are poisoned by nitrites. It certainly seems likely that the contact of unstable molecules like ONO with the ultimate elements of tissue may account for the marked and rapid effects of nitrites on the functions of some tissues; but even if the breaking up of nitrites is connected with activity of function it does not follow that the products of this decomposition are the cause of altered functions. There seems reason for believing that the amount of nitrate and nitrite excreted does not account for all the nitrate taken, and it has been suggested that reducing agents in the body may convert part of the nitrite taken into ammonia. No proof of this has yet been given, but I find that in blood left to decompose nitrites are destroyed by the reducing agents developed during decomposition, but no trace of nitrate can be found when the nitrite has disappeared.

Ethyl Nitrite.—Experiments with an incubator and artificial gastric juice render it improbable that ethyl nitrite itself is absorbed from the stomach. If a drachm of a 3 per cent. solution of ethyl nitrite is mixed with artificial gastric juice and HCl at 38° C. nearly all the ethyl nitrite is at once dissipated, but some nitrous acid is formed. In fifteen minutes, if the flask remains corked, there is still a slight nitrite reaction, but this is due entirely to free nitrous acid. It is possible that some of the ethyl nitrite which is set free when a 3 per cent. solution is taken into the stomach may be absorbed, but it seems more likely that the whole of the nitrite element of the ethyl nitrite ingested is taken into the circulation as nitrous acid, and combines with sodium of the blood. Nitrous acid acts like ethyl nitrite. I gave nitrous acid to two men, and by means of the sphygmograph recorded the effect on the circulation. The next day doses of nitrous acid, containing the same molecular equivalent of NO, were administered to them. The influence on the pulse tracing, both as regards extent and duration, was the same after the nitrous acid as after the ethyl nitrite. When ethyl nitrite is taken internally in ordinary doses the alcohol set free is probably not in sufficient amount to exert any physiological influence.

Amyl Nitrite.—When taken into the stomach amyl nitrite is probably broken up, but more slowly than ethyl nitrite. How far any undecomposed amyl nitrite is taken into the blood we do not know. From the comparatively slight effects produced by amyl nitrite when taken internally I am inclined to think but little is absorbed. When organic nitrites are inhaled they act much more rapidly and powerfully. They quickly reach the systemic vessels in an undecomposed state, and the fatty molecule is probably effective as well as the nitrite molecule.

PHARMACOLOGY OF THE NITRITES.

Influence of Nitrites on Blood.—It is probable that nitrites affect more or less all the tissues of the body, but the most distinctive influence is seen on the blood and on the muscles. Dr. Gamgee, in 1868, pointed out the important fact that on the addition of nitrites to blood the colour became brown and the spectrum altered. He found that these changes were due to the conversion of oxyhæmoglobin into what is now known as methæmoglobin, and showed that this conversion was connected with a locking up of oxygen in the new compound. Since the presence of methæmoglobin in the blood tends to unfit this fluid for its functions it is important to consider the conditions under which it is formed by nitrites and destroyed. In blood outside the body 1 part of nitrite to 500 of blood causes methæmoglobin to appear at once, with 1 in 1000 I have found it in three or four minutes, and with 1 in 10,000 after a few hours, but it is not in sufficient quantity to be detected by the spectroscope with so small an amount of nitrite as 1 in 20,000. According to Henocque[2] the injection of a few centigrammes of a nitrite of sodium solution into the peritoneal

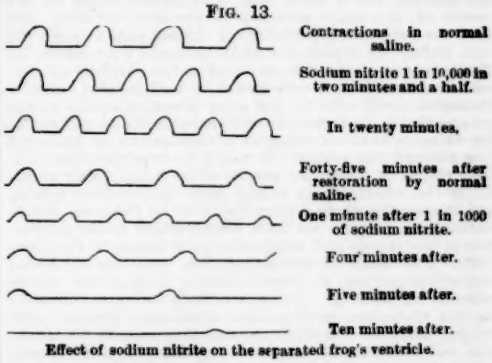
[1] Zeitschrift für Physiologie und Chemie, Band v., p. 253.
[2] Compte Rendu de Biologie, vol. v., p. 3.

cavity of an animal causes methæmoglobin to appear almost immediately, and its effects are well marked in a minute, but after subcutaneous injection not for from three to twenty minutes. Given by the stomach, the blood changes are still more slowly produced. In man ten to twelve grains caused in one case blueness of the lips, doubtless due to the production of methæmoglobin, but I find no record of cyanosis caused by a small single dose. To many healthy people I have given from two to four grains of sodium nitrite, to a few from five to six grains; to many, too, I have given from one to three drachms of a 3 per cent. solution of ethyl nitrite, but I have never seen any indication that the production of methæmoglobin has followed, nor have I seen it produced by similar doses in cardiac or pulmonary dyspnœa or other ailments in which I have used the nitrites, notwithstanding that I have given from two to three grains of sodium nitrite every two or three hours and as much as five drachms of ethyl nitrite solution within an hour. I find, however, a case recorded in which, after a drachm of nitrite of ethyl solution given every three hours in an asthmatic subject, there was an appearance of cyanosis after the fourth dose, which is said to have passed away after the drug was discontinued. It is by no means certain that the cyanosis in this case was due to the nitrite given; methæmoglobin in the circulating blood of living animals, unless in large quantities, is quickly disposed of. Henocque produced methæmoglobin in rabbits by injecting various quantities of sodium nitrite, and by frequent examinations of blood from the ear determined the time of its disappearance from the blood. He found that the methæmoglobin, once produced, continues for a time varying from fifteen minutes to an hour and a half. Doubtless, however, it often exists a much longer time. After large quantities of nitro-glycerine have been introduced into the stomach of a dog methæmoglobin was found in the blood for two days. Henocque thinks that the methæmoglobin may be transformed into oxyhæmoglobin in the respiratory processes. In blood outside the body methæmoglobin is not transformed into oxyhæmoglobin till putrefaction sets in, but it seems probable that the contact of methæmoglobin with living tissues causes this transformation. Dr. Gamgee has sent me an interesting record of an experiment he made which bears on this subject. He tied one aorta of a frog and inserted into the other a cannula connected with a reservoir containing 1 part of defibrinated calves' blood and 10 of normal salt solution in which methæmoglobin had been produced by the addition of $\frac{1}{15}$th of its volume of a 1 per cent. solution of nitrite of amyl. Into the sinus venosus he fixed a cannula which was connected with a flattened glass tube allowing of spectroscopic examination of blood flowing through it. The heart pumped blood by which it was fed from the reservoir through this glass tube, and thence by an india-rubber tube back into the reservoir, continuous circulation of the methæmoglobin blood through the heart thus taking place. Within an hour he found that the blood seemed brighter and the methæmoglobin band less distinct. In twelve hours these changes were still more marked. In twenty-four hours the methæmoglobin band could not be detected, only the oxyhæmoglobin bands could be seen. The heart continued to work vigorously, the beats, which under the influence of methæmoglobin blood had fallen from 8 to 5·5 in 15 seconds, having again risen to the original number. This experiment seems to show that in contact with living tissues methæmoglobin is easily converted into oxyhæmoglobin, the nitrite doubtless disappearing at the same time, and it is evident that methæmoglobin does not interfere seriously with the power of blood to nourish the heart muscle. Outside the body sodium nitrite seems to have no effect on the form and size of the red corpuscles. From what has been stated it is manifest that we have no cause to fear the production of methæmoglobin or injury to the blood from the medicinal administration of nitrites.

Influence of Nitrites on Skeletal Muscle.

With regard to the skeletal muscle tissue I have already indicated the nature of this action. The presence of ONO molecules in striated muscular tissue tends to decrease the contractile power and the duration of vitality. A solution containing 0·75 of sodium nitrite kills a muscle in fifteen minutes; but at first it powerfully irritates it, causing spontaneous contractions. A weaker solution—1 in 1000—quickly diminishes the contractile power of muscle and causes it to die in from thirty to forty minutes. The same strength of potassium nitrite kills muscle even more quickly, for the potassium element is also injurious. Sometimes it appears as if a primary stimulating effect is produced, at least in the muscle tissue of the frog. In a series of observations made in June, July and August this effect was a rare occurrence, whilst in another series in April and May it was almost always seen and was found to commence within a few minutes after exposure of the muscle to the nitrite solution. It lasted about fifteen minutes, after which the muscle rapidly died. A muscle exposed to 1 in 5000 of sodium nitrate can only be made to contract for about two hours and is so injured by a strength of 1 in 6000 that it dies in four hours; but 1 in 20,000 seems to have hardly any toxic effect, its contractile power continuing after exposure to this strength for twenty-four hours. It is worthy of remark, however, that the alteration in the function and vitality of muscle caused by sodium nitrite decreases and passes away with great rapidity as the nitrite in contact with the fibre is lessened in quantity or removed. I do not intend to notice

FIG. 13.


Contractions in normal saline.
Sodium nitrite 1 in 10,000 in two minutes and a half.
In twenty minutes.
Forty-five minutes after restoration by normal saline.
One minute after 1 in 1000 of sodium nitrite.
Four minutes after.
Five minutes after.
Ten minutes after.

Effect of sodium nitrite on the separated frog's ventricle.

in detail the influence of the organic nitrites, for saline solution containing these compounds at once becomes acid from their decomposition. When, therefore, muscle is immersed in normal saline solution containing them it is impossible to say how far the phenomena observed are due to the free acid or to the nitrite itself. I may point out, however, that 1 in 1000 of amyl nitrite in saline solution is fatal to a muscle in forty minutes, or in about the same length of time as sodium nitrite, but it produces a certain amount of contracture, and I found the contracture still present even when, by the addition of a minute quantity of soda, the fluid was kept as nearly as possible neutral.

Action on Involuntary Muscle.

On involuntary muscle, both in cold-blooded and warm-blooded animals, nitrites have a powerful paralysing effect. This can be shown by perfusing alternately a pure saline solution and one containing a small quantity (1 in 1000) of a nitrite through the vascular system of a tortoise after decapitation. When saline is perfused a fairly equal flow is soon established; when the saline containing nitrite is passed through the flow is considerably increased, often to the extent of from 100 to 200 per cent. This increase can only be due to relaxation of the vessel walls. When the nitrite saline is replaced by pure saline the vessels contract again and the flow becomes less. The further perfusion of nitrite saline again increases the flow, which will again decrease with normal saline. What part the peripheral ganglia play in the dilatation of the vessels cannot be ascertained, but there are grounds for believing that the nitrite influence exercised is largely on the muscle tissue itself. I have found 1 in 10,000 quickly double the flow through the vessels of the tortoise, and Atkinson[3] says he has seen 1 in 100,000 increase the flow from 16 to 18 per cent. One in 1000 of nitrite of sodium will usually increase the flow by from 50 to 200 per cent. The dilatation of the vessels in warm-blooded animals may be shown by passing through excised portions, first pure blood and then blood containing nitrites. When a solution containing 1 in 1000 of sodium nitrite is passed through the kidney vessels the increased blood flow is sometimes enormous, amounting to 200 or 300 per cent., and the same is the case when a similar solution is passed through the hind-quarters of an animal recently killed. In both cases the vessels contract

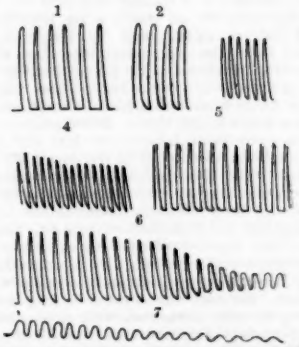
[3] The Pharmacology of the Nitrites and Nitroglycerine (Journal of Anatomy and Physiology, vol. xxii.). I desire to express my indebtedness to this most valuable paper for many of the facts set forth in these lectures. With one or two slight exceptions my experiments have entirely confirmed those of Dr. Atkinson.

and the flow diminishes when the nitrite is replaced by normal blood, and is increased again when nitrite blood is perfused. The group ONO then seems to have a very powerful effect in causing temporary paresis of the muscular structure contained in the arterial walls and hence dilatation of the walls. As is the case with the skeletal muscles, the effect of the nitrite ceases at once when it is removed from contact with the tissue by washing through with pure blood and no evil effect is left behind. I believe this to be an important point to bear in mind in reference to the therapeutic use of the nitrites. I pointed out that a preliminary stimulation was not infrequently observed when the gastrocnemius of a frog was exposed to a very weak solution of sodium nitrite. I have not seen evidence of such primary stimulation of the contractile tissue of the vessels under smaller quantities of the nitrites, but I have seen contractions occur in the vessels of a tortoise with a 0·75 per cent. solution, and here the subsequent perfusion of normal saline raised the flow, perhaps by diluting the nitrite poison in the vessel walls. The influence of the nitrites of potassium, barium, calcium and strontium I have only tested on cold-blooded animals. Potassium itself acts in the same direction as the nitrite group—that is, it dilates the vessels; chloride of potassium, for example, in dilute solutions always causes an increased flow through the vessels. It would be expected, therefore, that nitrite of potassium would, other things being equal, dilate the vessels of an animal more than sodium nitrite, and this, on the whole, I have found to be the case; but in barium and calcium we have metals which cause contraction of the vessels and antagonise the influence of the group ONO. The result of this antagonism resembles somewhat that which has been described as taking place in the gastrocnemius of the frog. When relatively strong solutions of barium nitrite are used marked contraction occurs; with weaker solutions it is slight or there may even be dilatation. The calcium element almost antagonises the ONO group, relatively strong calcium nitrite solutions showing temporary dilatation like the barium, though it is less marked. Nitrite of ethyl is so rapidly converted into nitrous acid and alcohol when it comes in contact with water that it is impossible to determine its influence on vessels. It only dissolves in saline solution with the aid of a little alcohol, and so much acid is produced by its decomposition that 1 in 10,000 or any stronger solution causes distinct contraction of the vessels. Dilatation follows the circulation of 1 in 30,000, but this may be due to the faint acidity of the solution, since very dilute acids dilate vessels, though stronger acids contract them. Amyl nitrite is only soluble in saline solution when a small quantity of alcohol is added, but the presence of a quantity of alcohol sufficient to dissolve 1 in 10,000 of amyl nitrite does not influence the vessels. I find that, whilst 1 in 10,000 sometimes contracts and sometimes dilates vessels, a stronger solution always contracts them. A weaker solution, from 1 in 20,000 to 1 in 30,000, dilates them temporarily. It is impossible to eliminate the disturbing influence of the acid which is developed when amyl nitrite comes in contact with water. We have some evidence that nitrites act on involuntary muscular fibre in other parts in the same manner as they act on that which surrounds the vessel walls. Mr. Cook, in some experiments made under Professor Stirling's directions in the Physiological Laboratory of Owens College, has shown that 1 part of sodium nitrite to 1000 of saline causes diminution of the spontaneous contraction which naturally takes place in the circular fibres of the frog's stomach and rapidly paralyses the muscle. Atkinson, too, finds that a 1 per cent. solution destroys the contractility of the intestinal muscle to electric currents in from thirty to forty minutes, but that after exposure to 1 in 1000 for three or four hours contractions could be obtained. Atkinson has also proved that muscular tissue in the ureter dilates under the influence of nitrites of sodium. If a rabbit be killed and placed in a hot chamber and normal saline run through the ureter dilatation of a marked character occurs.

ACTION ON THE HEART MUSCLE.

It can be shown that the action of nitrites on the heart muscle is much the same as on the contractile tissues of the vessels. In the apparatus devised by Professor Roy it is possible to determine the action of a drug on the muscular tissue of the heart alone. On feeding the ventricle with a saline solution from a reservoir placed above it it contracts after a while regularly and continues to do so for a long time; on allowing a saline solution[1] containing a definite quantity of a substance to be tested to pass through the ventricle modifications in the frequency and form of the heart's contractions will indicate the pharmacological activity of the substance so far as the muscle wall is concerned. The tracings I give represent the average effects produced. Now it is found that liquid containing 1 part of sodium nitrite in 1000 of saline solution first quickens the action of the heart for two or three minutes, decreasing, however, the force of each contraction, but afterwards the heart beats more slowly as well as less powerfully, and in ten minutes stops in diastole. One in 5000 also quickens the heart's beat for a few minutes and slightly weakens it; then it slows it, but the heart will continue to live for two hours. One in 10,000 quickens and weakens the heart for twenty minutes, but in other ways it has very little effect. When the nitrite is replaced by a saline solution the heart begins beating anew and soon regains entirely, or almost entirely, its previous vigour. It is possible to start and stop the heart two or three times by alternately using a saline solution and one containing 1 part in 1000 of nitrite. The following diagram illustrates the influence of sodium nitrite on the muscular tissue of the heart: In no case have I found any actual increase in the force

FIG. 14.



Effect of barium nitrite on frog's heart, 1 in 2000 and 1 in 1000. (1) Normal saline; (2) barum nitrite (1 in 2000); (3) 16 min. after; (4) 95 min. after; (5) barium nitrite replaced by normal saline 45 min. before; (6) barum nitrite, 1 in 1000; (7) 3 minutes after.

of the individual heart beats. Potassium nitrite acts like sodium nitrite, only the weakening effect is more marked. When a molecule of calcium instead of a molecule of sodium is combined with the ONO group a slightly different effect is produced. With 1 in 1000 the action is much the same as with sodium nitrite of the same strength, except that the quickening is not so great. With 1 in 10,000 there is also very little quickening; the beats are squarer at the top. Calcium, as Dr. Ringer has shown, prolongs the systole and thus renders the top of the beats squarer—that is, as Dr. Ringer has shown, it tends to prolong the heart's action. Here, as is usual in the lime compound with ONO, the effect of the calcium is best seen when a very delicate solution is used. One in 1000 of barium nitrite at once shortens the height of contraction and kills the heart rapidly. When the heart is fed with 1 of barium nitrite in 2000 of saline the duration of systole is so much increased that full diastole does not occur, but soon the action of the heart is quickened and weakened. Eventually the barium nitrite acts as a poison to the heart. A tracing I show illustrates

FIG. 15.

Influence of 1 in 4000 of amyl nitrite in blood on the heart. (1) Beats with normal blood; (2) blood containing 1 in 4000 of amyl nitrite used for 48 seconds; (3) normal blood used 3 min.

this: The rapid decomposition which ethyl nitrite undergoes prevents its effects on the heart being determined, and in saline solutions even small quantities cause the fluid to

[1] By saline solution I mean in the case of the heart a 0·6 per cent. solution of chloride of sodium, containing also a minute amount of potassium and calcium, as recommended by Dr. Ringer.

become acid. When blood is used, however, the fluid does not become acid and the influence of amyl nitrite on the heart muscle can be determined. Fig. 15 (taken with Kronecker's apparatus) shows well the influence of amyl nitrite on the heart muscle. It will be seen that with 1 in 4000 of blood the beat of the heart is quickened, and though the height of the contractions is less there can be little doubt that the heart does more work. When a larger quantity of amyl nitrite (1 in 2000) is present the contractile power of the heart is decreased and the heart beat becomes slower. A still larger amount stops the heart in diastole. The outcome of experiments on the heart muscle is as follows. The molecules of the ONO group in whatever combination, when present in even small quantities, tend to quicken the contractions but to weaken them. If the solutions coming in contact with the heart are very dilute the quickening may make up for the weakened action, and the heart probably does as much, it may be more, work for a short time. Stronger solutions containing compounds of ONO, after quickening, weaken, slow and arrest the heart's contractions; but susceptible though the heart is to the influence of nitrites, the evil influence is very evanescent if the nitrite molecules be removed.

THE SYMPTOMS AND TREATMENT OF SEPTIC INTOXICATION (SAPRÆMIA) DURING THE PUERPERIUM.

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AS septic diseases, thanks to the work of Pasteur, Lister, Koch and others, have been of late years placed on a firm pathological basis, and as at present many important problems of great interest and difficulty still exist, any attempt towards their elucidation is useful in order to procure a mass of evidence which will stand the tests of time and experience. During the puerperal state excellent opportunities are afforded for the clinical study of the disease which is considered in this paper. I have put together certain facts derived from critical observation of a series of patients exhibiting symptoms of septic intoxication. In arriving at conclusions on this as on many kindred subjects in obstetrics it is necessary, in order to obtain a thorough conception of the nature of the malady, to draw analogies from general surgery and to look upon a puerperal woman as having undergone an operation—labour—of greater or less severity and as possessing a wounded surface in various stages of the healing process, according to the time which has elapsed since delivery. By carrying out investigations on these lines many erroneous conclusions are avoided and much useless controversy brought to an end. The term "sapræmia" has been variously interpreted by those who have written on the subject, some writers having confused the two conditions "sapræmia" and "septicæmia." Sapræmia (σαπρὸς, putrid; αἷμα, blood) may be defined as the group of signs and symptoms produced by the absorption of putrefactive products into the blood; whilst "septicæmia" or "septic infection" is the term applied to the group of signs and symptoms produced by the entrance of pathogenic organisms. It is difficult in the present state of our knowledge to draw a hard-and-fast line beween those two diseases, as there is no doubt that cases of sapræmic origin may develop into cases of septicæmia and that the cure of sapræmia may prevent the occurrence of septicæmia. Putrefaction becomes a predisposing cause of septic infection—firstly, by exciting inflammation and suppuration, thus providing a suitable medium, the inflammatory exudation or pus, in which pathogenic organisms may develop; and, secondly, by lowering the vitality of the tissues in consequence of which they are more readily invaded by the pathogenic fungi. The effects of putrefaction are local and general. The former consist of septic inflammation and suppuration dependent upon the irritation caused by the chemical products of putrefaction, the latter of a febrile affection characterised by symptoms to be presently enumerated. The poison which is the product of the action of saprophytic organisms (they do not multiply in the blood) does not increase in the system, the effect being proportional to the dose. If the dose be small and the period during which absorption continues short, the resultant affection is known as "sapræmic fever." This form is most frequently met with amongst puerperal women. If the dose be small, absorption continuing for months, "hectic fever" is produced, as exemplified in cases of hip disease with prolonged suppuration, some cases of phthisis and uterine cancer. If the dose be large and absorption rapid, a fatal result may speedily follow; it is this particular form, included under the term "septicæmia," which has caused confusion. The clinical distinction between septicæmia and the last form of sapræmic fever is very difficult, for sapræmia merges insensibly into a septicæmic process or a combination exists. The effect of treatment is a useful guide; after application of suitable antiseptic lotions patients may be saved from death in sapræmic cases, such a result rarely, if ever, occurring in those of septicæmic origin.

Under the term "sapræmia" may therefore be included "simple sapræmic fever," "hectic fever," and "severe sapræmic fever," the last being difficult to distinguish from septicæmia. Large irregular wounds and hollow wounds are prone to be attended with septic intoxication. In the female genital organs the conditions are even more favourable where the uterine cavity is specially absorbent and the lochial discharge maintains a constant supply of fresh decomposable material with consequent continuous development of the poison. The symptoms in the majority of cases (chiefly seen towards the end of the puerperium) are rather those caused by prolonged administration of a moderate dose of the poison than by a sudden entrance of a lethal dose into the blood stream. It is evident that there can be no marked development of organisms or their products if the discharge flow away as rapidly as it is formed. The outflow may, however, be arrested in the vagina, where the lochia collect in crevices produced by laceration of its walls, or the cervical canal may become plugged with muco-pus, membranous shreds or a portion of placenta remaining in utero and causing obstruction to the egress of the uterine discharge. When the lochial discharge contains putrefactive germs it becomes a source of danger to all the wounds from the cervix outwards through the suppuration produced; they are in constant contact with the discharge and may be literally bathed in it where the secretion is copious and stagnates in the vagina. The discharge is much less injurious to the lining of the uterine cavity while constantly flowing down over the surface; should any obstruction occur the same result follows—viz., absorption of putrefactive products. Putrefactive germs are destroyed by healthy tissues and cellular new formations, thus keeping the process within limits. Associated with the putrefactive process increased hæmorrhagic discharge from the genital passages may be observed, comparable to the hæmorrhage noticed during the sloughing of an amputation stump. Elevation of temperature with constitutional disturbance, the result of putrefactive changes, may cause diminution in quantity of the discharge, accompanied by increased heat in the genital canals. Cases of septic infection arising from the decomposition of material within the cavity of the uterus are necessarily complicated to a greater or lesser degree by septic intoxication; on this account the recognition of the septic processes becomes correspondingly difficult.

The most common symptom of which the patient complains is headache. In many cases the headache is frontal, aching in character, and sometimes accompanied by pains in the eyeballs. It may, however, be both frontal and occipital, or, as one patient remarked, "all over the head." Next in frequency comes drowsiness or a feeling of fatigue, like that due to physical exertion. Although the patients are drowsy, there is still difficulty in sleeping—a condition of drowsiness with sleeplessness. This feeling of fatigue is very characteristic and when coupled with headache should arouse suspicion of septic mischief. A similar condition may be observed after prolonged inhalation of a vitiated atmosphere—e.g., that of a crowded apartment. Gastro-intestinal disturbances are soon observed; the patient complains of thirst and loss of appetite. The tongue is dry and furred. Nausea and vomiting of food, or of food mixed with bile, are also seen, associated with a jaundiced appearance of the eyes or even of the skin of the face. These symptoms are sometimes mistaken for a bilious attack. Diarrhœa may or may not occur, the motions being usually offensive. The jaundice so common in pyæmia appears to be quite independent of the presence of pyæmic deposits and abscesses in the liver. Frerichs remarks that "to all appearance the jaundice is here the result of an impaired consumption of bile in the blood arising from an abnormal condition of the metamorphic processes which go on in that fluid." The jaundice may, in cases of sapræmia, be produced by the action of the poison excreted by the bile producing a catarrhal condition of the common bile duct analogous to the action of toluylendiamin. A similar irritative action on the intestinal mucosa would account for the diarrhœa. The

preceding symptoms are frequently present where the temperature is only slightly elevated; as the disease progresses a further elevation up to 102° or 103° occurs, the highest temperature observed being 104·6°. Rigors common in septicæmia are rare in sapræmia. The fever is more of a continued character, marked daily variations being absent. The pulse rate is accelerated. In many cases the face has what may be described as a "languid expression" with absence of the natural lustre from the eyes. Elevation of the temperature is often accompanied by flushing of the face and increased general perspiration. Complaints of pains in the limbs are frequent. Patients in this condition are prone to the effects of mental excitement and worry. While not disputing the influence of these as factors in the causation of elevated temperature, the foregoing relation should be borne in mind. Delayed involution of the uterus is to be noted, and this with increased softness is made out by abdominal examination. Abdominal pain, with tenderness on pressure over the pelvic organs, occurs most frequently in those having a previous history of inflammatory attacks or gonorrhœa. Putrefaction in utero, being an important cause of pelvic cellulitis, must aggravate any previous inflammatory trouble. Owing to the poisoned state of the blood cracked nipples are apt to be attended by mastitis: special care should be taken to prevent this complication.

The constitutional disturbance is not proportional to the amount of putrefaction of the lochia. On the one hand the discharge collected externally may not be foul-smelling, while many of the previous symptoms are observed; on the other hand, the discharge may be very offensive, with no symptoms present. Although the external discharge is not foul-smelling, the discharge pent up in the uterus may be, as in many cases the cervical canal becomes plugged with muco-pus, membranous shreds or placental remains, the condition only becoming apparent when a channel has been effected through the introduction of the intra-uterine douche tube. In some cases the finger introduced into the cervix does not detect the decomposition, when in all probability the putrefactive material is situated towards the fundus uteri. In cases where the discharge is very offensive, with total absence of symptoms, rapid draining away of the putrefactive products occurs, so that little time is allowed for absorption. It should be remembered that the toxic power of a discharge cannot be estimated by the smell. In one case out of the present series where the discharge was exceedingly offensive no symptoms were present, while symptoms of great gravity occurred in a case in which the discharge possessed very little fetor. The drainage of vaginal discharges can never be perfect; to counteract this, however, the absorptive power of the vagina is inferior to that of the uterine mucosa, so that decomposition going on in the vagina only may not be attended with symptoms, provided always that the drainage is fairly free. Signs of sapræmic poisoning were noticeable after the fifth day of the puerperium in the majority of the cases;[1] in one as late as the thirteenth day, and in a few as early as the third day. The period of onset tends to support the view that the symptoms are caused by the prolonged administration of a moderate dose of the poison. As to the relative frequency of the occurrence of sapræmia in primiparæ and multiparæ the balance is in favour of the former, doubtless owing to the presence of a larger number of wounded surfaces. Diseased conditions of other organs must be excluded, lest in the desire to assign symptoms to a septic cause other maladies are overlooked.

The indications for treatment are as follows: (1) To remove as far as possible the septicity of the lochial discharge, and (2) to increase the elimination of the poison absorbed. By removing the septicity of the lochial discharge the manufacture of the poison is stopped and the system is in this way enabled to eliminate the amount already absorbed. For this purpose douching with antiseptic remedies is employed.

A. Intra-uterine douching—Indications.—As soon as the signs and symptoms previously detailed are observed an intra-uterine douche should be given without delay. Although patients suffering from sapræmia may recover completely without any treatment being applied, still there is danger of a worse condition arising complicated with septicæmia.

The method.—1. Position of the patient: Care should be taken that the shoulders are raised and the pelvis depressed so as to permit the fluid to flow away easily. 2. Before the introduction of the intra-uterine douche tube the external genitals should be washed with soap and warm water followed by sponging with an antiseptic solution. A vaginal douche should then be given. This procedure is of essential importance as septic matter may be carried into the uterine cavity with the introduction of the fingers or instruments. 3. In introducing the douche-tube care should be taken to avoid making any fresh wounds. 4. Whatever form of apparatus be used, it is necessary, firstly, that the fluids injected have free exit from the uterus, and, secondly, that air be as far as possible excluded. 5. The continuous douche is preferable to the syringe. The douche-can should not be raised more than two feet above the level of the patient. If blocking of the tube occurs it is better that it should be removed and reintroduced instead of increasing the height of the douche-can, as the fluid may be admitted at too high a pressure when the resistance is overcome. The flow must be slow, so that the uterine cavity becomes bathed with the solution. 6. The fluid injected should be at a temperature of 115° F. and should possess suitable antiseptic properties. Corrosive sublimate is the most efficacious, either a small quantity (half a pint) of a 1 in 2000 solution or one pint of a 1 in 4000 solution, both followed by the injection of boracic acid lotion or boiled distilled water in order to wash away the remains of the mercurial solution. 7. During the injection of the solution the uterus should be grasped by the operator's left hand or by an assistant who can at the same time compress the Fallopian tubes. The uterus should be compressed at intervals to aid the escape of the fluid and finally after the removal of the douche-tube. 8. An anæsthetic may be given when necessary.

Errors in intra-uterine douching.—1. The douche can be raised too high, thus permitting a rapid flow of fluid into the uterine cavity. Where no attention is paid to compression of the fundus uteri through the abdominal walls sudden distension of the uterus occurs, the patient exhibiting signs of collapse. There is also the risk of washing away the placental clots and allowing direct entrance of fluid into the uterine veins. 2. Using a large quantity of a strong antiseptic—e.g., corrosive sublimate—with the production of mercurial poisoning. If a small quantity be used, followed by a bland aseptic solution, this risk is reduced to a minimum. The intra-uterine douche should be repeated as long as symptoms persist. In most cases three applications will suffice. The symptoms may entirely disappear after one application, a marked effect being observed after half an hour to an hour. The dangers of intra-uterine douching are faintness, collapse, loss of consciousness, clonic spasms, rigors and even sudden death. Fritsch[2] believes the last to be due to direct entry of fluid into the venous sinuses. These dangers are avoided by attention to the rules already laid down.

B. Vaginal douching.—This is sufficient in those cases where the putrefactive change is confined to the vagina. The insertion of an iodoform pessary is a useful adjunct, the iodoform acting on the toxic products. In fulfilling the second indication for treatment—viz., to increase the elimination of the poison—the emunctories should be stimulated by suitable drugs. A smart purgative will be found useful. The action of the skin should be promoted by diaphoretics—e.g., Dover's powder. The retraction of the uterus will be furthered by hot applications over the hypogastrium, which are also serviceable should there be any pelvic cellulitis. Other symptoms should be treated on general principles.

[1] In the cases of puerperal pyrexia reported to the British Medical Association (Collective Investigation Committee) the days of onset stand in the following order of frequency—viz., 3rd, 2nd, 4th, 1st, 5th.

[2] Centralblatt für Gynäkologie, 1878, No 15.

ASSOCIATION FOR THE ORAL INSTRUCTION OF THE DEAF AND DUMB.—By the report of this association for the past year it appears that thirty-five boys and nineteen girls have received instruction at the school during the twelvemonth, and the success which has attended the efforts of the teachers is such as to have afforded them great satisfaction. Four students have been trained in the College and two of them have received the association's first-class certificate. The committee announce that the Duke of Fife visited the institution in December last and having spent some time in investigating the work of the school consented to become the president of the association. The condition of the balance-sheet, which is less satisfactory than could be wished, will not, we trust, appeal in vain to the benevolent who have the means of rendering aid to a very afflicted class of people.

TWO CASES OF

COMPLETE INTESTINAL OBSTRUCTION CONSIDERED WITH REFERENCE TO TREATMENT BY ABDOMINAL TAXIS.

BY R. LAWFORD KNAGGS, M.C. CAMB., F.R.C.S. ENG.

Two considerations induce me to bring the first case before the profession—namely, (1) because it is an instance of a hernia occurring in a common situation, without any external visible sign; and (2) because if abdominal taxis had been applied the obstruction would almost certainly have been relieved. Abdominal taxis for the relief of acute obstruction has been strongly advocated by Mr. Hutchinson, but has scarcely received the consideration it deserves, bearing in mind the eminence of the advocate, his cogent reasons and the important array of facts by which he supported them.[1] Laparotomy for acute intestinal obstruction cannot be regarded as a trivial detail, and most surgeons will admit that precedence should be given to less heroic measures, provided that they offer a reasonable prospect of relief and that they can be carried out without prejudicing the chances of subsequent operative procedures. I have heard Mr. Hutchinson's proposals discussed as though they were advanced with the object of substituting taxis for laparotomy in these cases indiscriminately. But his words are these: "It is for the *early* use of anæsthetics in all cases, and abdominal taxis only in appropriate ones, that I plead."[2] It is obvious, therefore, that taxis is only intended to take the same position in the treatment of internal strangulation or obstruction that it has long occupied in cases of visible hernia. Mr. Hutchinson supports his arguments by recording several successful cases, and few surgeons will be able to point to as many successes after abdominal section. I would recommend those who are inclined to criticise this statement to weigh well the cases themselves as presented by him. I regret now that abdominal taxis was not practised in my case; but, had it been suggested, several reasons occur to me as likely to have militated against the adoption of the suggestion. The patient lived in a very inaccessible and distant place; his condition was very grave and rapidly becoming worse; all his surroundings were most unfortunate and delay of a few hours would have rendered operative interference hopeless. We should probably have argued that the time for abdominal taxis had passed and that delay would be fatal. Looking back with a knowledge of the exact nature of the obstruction and the ease with which it was reduced, it is almost a certainty that reduction under taxis would have readily occurred, and that in that case the chances of the patient's recovery would have been infinitely more favourable than after a laparotomy, however skilfully performed.

CASE 1.—On Tuesday, Feb. 13th of this year, I saw some distance beyond Holmfirth, in consultation with Dr. Watthews and my father, a man aged fifty-eight years, somewhat thin, but tall, strong and muscular. The commencement of his illness could be traced to the previous Tuesday, when he felt a sudden pain in the lower part of the abdomen as he was lifting a weight upwards in loading a waggon. He seems to have been not well on the succeeding days, but had no vomiting till the Thursday or Friday, and was not seen till Saturday by Dr. Watthews. On Sunday and Monday the vomiting became worse and finally stercoraceous, and on the Tuesday before we met it had become most urgent. The bowels had not been opened and no flatus had passed since the painful seizure on the previous Tuesday. At the time of our consultation the patient was collapsed and his hands and arms were cold. He had not the Hippocratic expression, but he had an air of great weariness and listlessness as though it bored him to answer the questions which were put to him. The tongue was moist and furred, and stained the colour of the vomit; the pulse was 68, but not good. There was no abdominal distension or tenderness, and a tympanitic note could only be heard in places. Splashing, evidently of the contents of the small intestine, could be obtained, as well as visible peristalsis and gurgling. The ordinary sites for hernia were very carefully examined, but no tumour was present. The patient was not in pain, but described an uneasy feeling in his left iliac or inguinal region. After carefully considering all the circumstances we came to the conclusion that the bowel (probably the small intestine) had become in some way nipped and that complete obstruction but not strangulation existed. The only definite suggestion made—viz., "some form of internal hernia"—owed its origin to the patient having described a feeling of "something having given" previously to the onset of pain that occurred when loading the waggon. There was no divergence of opinion either as to the propriety or necessity of immediate operation. Consequently the patient was anæsthetised and the abdomen opened in the middle line, and at once a stretched loop of small intestine directed the finger to the left femoral ring, in which the end was fixed. A hernia undoubtedly existed, but even with one hand in the abdomen it was impossible to make out any tumour in the groin. Whilst this was being investigated, and without any attempt to reduce the invagination, it disappeared. The sac in which it had been caught was exactly filled by the tip of the index-finger introduced for one-third of an inch. The bowel that had been nipped was then sought for and found. It was the ileum and was recognised by the presence of two constricting grooves three-quarters of an inch apart, each of which only encircled about three-quarters of the circumference of the bowel. In appearance and colour the included bowel did not differ from the bowel on either side of it and was quite healthy. There was, however, a very slight ecchymotic appearance in the adjoining mesentery. On both sides of the constricted portion the intestine was collapsed, but on tracing one side up for a few inches it quickly became distended. A band running from the parietes to the hernial aperture was ligatured and divided and the abdomen closed without any further search, the operation having taken only a very short time. On recovery from the anæsthetic the stomach emptied itself of a quantity of very foul fæcal-smelling fluid. I heard subsequently from Dr. Watthews that after this the vomiting completely ceased and that the bowels acted several times during the night and the following day; but the patient never rallied from his collapsed condition and died twenty-four hours after the operation.

The mechanism of the obstruction in this case was not such as is usually found in cases of hernia. It depended, not upon strangulation at the ring, but on the acute kinking and stretching of the coil whose end had been caught. When the nipped intestine was being examined it was found impossible on account of the shortness of its mesentery to bring it outside the abdomen, and doubtless this condition was answerable for the involved loop being so stretched and kinked at the ring, where it was fixed. It is probable that the hernia was of the kind known as Richter's, in which the whole lumen of the bowel was not included in the ring; but the absence of any congestion of the included portion made it difficult to feel certain.

CASE 2.—I will now mention another instance in which symptoms of complete obstruction lasted for more than a week and terminated in recovery without any active interference, because it is probably an example of spontaneous reduction of a loop of intestine that had been nipped under a band. A young man aged eighteen suffered in 1886 from an abdominal condition which was regarded as tuberculous peritonitis. He completely recovered, but some months later was seized with pain in the abdomen, vomiting and marked succussion over the region of the stomach. Under opium he recovered in two or three days and I formed no opinion as to the cause of his illness. Not very long afterwards he was again taken ill with symptoms of complete intestinal obstruction. He was treated with opium and belladonna and fed entirely per rectum. His general condition remained so satisfactory on this plan that operative interference was not considered justifiable. On the seventh day of the obstruction he had a sudden pain on the right side of the umbilicus and "felt as though something was jumping about inside him." This was accompanied by audible gurgling. Within half an hour a very copious, dark-brown, offensive liquid stool was passed and three others of a similar nature came away during the night. Next morning the succussion was gone and he resumed his ordinary duties in a day or two and has never had any return of the condition.

The occurrence of spontaneous reduction of a loop of bowel that has been twisted, or nipped under a band or in an aperture, is a strong argument in favour of abdominal taxis, and if, in the early stage of obstruction in similar cases, this is thoroughly and systematically performed in accordance

[1] Hutchinson: Archives of Surgery, vol. i., p. 1.
[2] Ibid., vol. ii., p. 254

with Mr. Hutchinson's suggestions,[3] and "the body inverted so that the intestines drag upwards by their weight," there is great probability that in many instances the entrapped or twisted bowel may be released.

When strangulation has led to gangrene of the knuckle or to gangrenous ulceration at the site of the constriction it is very obvious that taxis is unsuitable. The early period, before the coats of the bowel have had time to suffer and before distension has become very marked, is most suited for its employment. At this stage it can hardly do harm and will not interfere with the success of a subsequent operation should it fail. In the later stages taxis may yield some brilliant results, as it might well have done in the case recorded; still it must have dangers of its own that cannot with certainty be prevented. Experience alone will show whether taxis under such conditions will have a better record than laparotomy. Early operation is held to be one of the most important essentials for success in laparotomy undertaken for obstruction; but the fact remains that a large majority of these cases are only submitted to it in the later stages when the patient's condition is bad and the prospect of recovery is small.

Two facts should be borne in mind when contemplating the relative merits of abdominal taxis and laparotomy: If the rule of practice were to open the abdomen at once when an acute obstruction due to a nipped or twisted bowel was diagnosed, then, certainly, a greater measure of success would result from the operation, but many cases would be operated upon that would have recovered if they had been left alone; on the other hand, though the conditions seen at many laparotomies are such, that taxis must obviously have been futile if it had been employed at the time when the operation was undertaken, yet in their commencement these entanglements are often very simple and probably quite capable of rectification by simple means.

Surgery, like everything else, must be judged in practice by its true needs and its true results. A successful operation is not of necessity good surgery; an operation, however successful, is an opprobrium to surgery if it is unnecessary. And, therefore, if it is possible in some degree to lessen the need for a serious operation by the early employment of a simpler measure, it may perhaps in some cases add to the legitimate triumphs of surgery and possibly in some degree diminish the human death-rate.

Park-square, Leeds.

INTESTINAL OBSTRUCTION BY A BAND; ABDOMINAL SECTION; RECOVERY.

BY W. E. ST. LAWRENCE FINNY, M.CH. R.U.I.

THE following case seems worthy of note, if only to record the course of the temperature after the patient's abdomen had been freely opened, the intestines withdrawn from the body and the peritoneal cavity sponged out. It is that of a man aged sixty-eight, but who looked much older, and who enjoyed uninterrupted good health up to about four years ago, when, whilst lifting a heavy weight, he felt something give way and became faint. A small left direct inguinal hernia formed and increased in size, causing considerable pain, but he was always able to reduce it himself by pressure. He procured two trusses in succession, neither of which suited his hernia, but a third truss fitted him more accurately. Whilst wearing the two badly fitting instruments he frequently suffered much pain not only in the seat of the injury but also in the abdomen generally, and he stated that at one time he had to remain in bed for some days and afterwards he spent hours in great pain, crouching over the fire. I presume it was then that the fibrous band formed which has since given him so much trouble, for it was after this that he first experienced occasional difficulty in the passage of his motions, accompanied by pain and flatulence. His appetite was generally good and his diet mixed. He was in the habit of taking large suppers, but was a very moderate drinker. On Saturday, March 18th of this year, having suffered from constipation for several days, he obtained some pills and medicine, which he said "cleared out wind and all." That appeared to have been his last motion for some time, for on the following Tuesday he took a dose of castor oil without effect. Later in the day he vomited, and during the succeeding days he suffered from increasing discomfort and pain, vomiting at intervals. On Saturday night, March 25th, I saw him at his house. He was then in bed, lying on his back with his legs drawn up, and complaining of abdominal pain. I examined the usual and unusual hernial sites, with negative results. The application of hot stupes to the abdomen gave some relief, but no purgatives were given. On the 26th I gave him several injections of warm soap-and-water, ridding him of some flatulence, though of but little fæces. He vomited at intervals without much effort, but said that each time he did so his pain increased. On the 27th he consented to go to St. Thomas's Hospital. In the evening I found that he had not done so, but he said he would go in the morning. I placed him in the genu-pectoral position and tried injections with the long tube, but without benefit. On the morning of the 28th his pain seemed a little easier, but he vomited everything he took. He got his clothes on with assistance and said he was going to the hospital early in the day. At night I was again sent for. He was then very prostrate and his appearance was ghastly. The pulse was regular, but quick and small. The vomited material had a fæcal odour. Having called to my assistance two medical men, at the earnest entreaties of the patient and his responsible relatives I decided to operate on him without further delay. There was now no time for elaborate antiseptic precautions, but such as could be made were observed. The room in which the patient lay was disturbed as little as possible; the air was warmed and hot jars were placed at his feet. The instrument, sponges and cloths were carefully antisepticised in an outer room, and my hands made aseptic, according to the teaching of the Rotunda Hospital (and, further, I dipped my hands into a basin of hot carbolic lotion each time before reintroducing them into the peritoneal cavity).

The patient was placed under the influence of ether, which he took somewhat rapidly, the pulse improving in force. Having passed a catheter and cleansed the abdomen I began by an incision through the skin from slightly above and to the right of the umbilicus, straight down parallel to the median line to within an inch of Poupart's ligament, and I did so with intention, because a prominent distension on the right side seemed to indicate the seat of the obstruction, and I hoped for firmer union when the sutures engaged several layers of tissue superimposed than I would obtain after an incision through the median line. The peritoneum was reached without difficulty. Having stopped all hæmorrhage and cleansed the wound I waited, covering the line of incision with hot moist carbolised sponges to encourage bleeding; then, having secured a few bleeding points, I raised and divided the peritoneum on a director. Again soaking my hand in carbolic lotion I passed one finger into the abdomen, checking the bulging of the intestines with hot carbolised sponges prepared for the purpose. Passing my finger downwards to the hernial opening I found it and the other hernial sites free; then, carefully feeling for the cæcum, which I was at first unable to find, in consequence, I believe, of the displacement of the parts, I passed my entire hand into the abdomen and then downwards towards the pelvis, but without finding the obstruction. I then withdrew some of the intestines from the abdomen, receiving them on hot carbolised cloths; this done, I now came on the obstructed portion, which appeared to be some inches beyond the commencement of the large intestine, there being much congestion, distension and displacement. After some careful searching I was able to feel a band, against which the distended intestine was pressing, and, having assured myself as to its fibrous nature, I divided it. I was now able to draw the intestine towards the opening of the wound and to reduce some intussusception by careful manipulation. Reintroducing my hand into the abdomen I satisfied myself as to the absence of further bands or other obstruction. I then returned the intestines, carefully sponging out the peritoneal cavity, at the same time removing some ascitic fluid. Then, uniting the peritoneum by carbolised gut and the layers of the abdominal wall in succession by buried sutures of the same material, I dusted the surface with iodoform and covered the wound with dry dressing. The subsequent history is briefly as follows, the temperatures mentioned being those which I myself recorded:

March 29th.—At 3.30 A.M. the patient passed a fluid and offensive motion, with some flatus; similar motions were passed at 7.30 A.M. and 3 30 P.M. His temperature sank to 98° from 7.30 A.M. to 4.30 P.M. The readings were: 5 A.M., 98·4°; 7.30 A.M., 98°; 3 P.M., 98°; 4.30 P.M., 98·4°; 5.50 P.M., 98·4° (wound dressed); 7 P.M., 98°; 10.30 P.M., 98·2°.

30th.—He had four fluid motions on this day. The tempe-

[3] Ibid., vol. i., p. 6.

ratures read: 5.35 A.M., 98°; 7.15 A.M., 98·2°; 9 A.M., 98°; 12.30 P.M., 98°; 2.30 P.M., 98°; 4 P.M., 98·4°; 8 P.M., 98°; 10 P.M., 99°.

31st.—He had four motions, less in quantity but more solid. The following were the temperatures: 6.55 A.M., 98·4°; 12 noon, 98°; 7.15 P.M., 98·6°.

April 1st.—Temperatures: 7.30 A.M. until 2.30 P.M., 98·0°; 6.30 till 10.30 P.M., 98·4°.

2nd.—Temperatures: 10 A.M., 98°; 2.30 P.M., 99°; 5.30 P.M., 98·4°.

3rd.—He got out of bed unaided; three motions followed, and the temperature sank to 97°. The temperatures were: 7.30 A.M., 98°; 4.50 P.M., 98·4°; 9.15 P.M., 97°; 11.45 P.M., 98·2°.

4th.—The temperature was 98·4° throughout the day.

On the 5th he was given eggs; on the 6th boiled mutton; on the 7th fish, tea and toast; and on the 8th meat and mashed potatoes.

10th.—The stitches were removed and the patient got up. The wound had healed by first intention and he had regained much of his usual strength. On April 25th, having eaten too much, he had an attack of pain in the abdomen and for precaution's sake I had him removed to the Children's Hospital, Kingston Hill, where special accommodation was granted him and his diet was regulated. Since then his condition has improved and remains entirely satisfactory.

Queen's-road, Kingston Hill.

ENGLISH CHOLERA OR INFLUENZA?

REPORT ON AN ALLEGED OUTBREAK OF ENGLISH CHOLERA IN THE CHELMSFORD RURAL SANITARY DISTRICT.

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ON Jan. 18th I heard that several cases of diarrhœa had occurred in the parish of Ford End and a day or two later an alarmist paragraph appeared in a local paper stating that it was an epidemic of English cholera. Upon visiting the district the schoolmaster informed me that during the previous month about thirty children attending school had been attacked and that in the village the cause of the outbreak was supposed to be the water from the public pump near the school. An examination of this water on the 24th showed that it then contained very little organic matter, much less in fact than the majority of shallow well waters in this district. Chemically it compared favourably with a sample taken from a spring of high reputation used by a portion of the inhabitants. Examined bacteriologically by plate cultivation, I found that from 0·5 c.c. of the spring water at the end of three days the whole plate contained only 21 colonies, varying in size from a small pin's head to half an inch in diameter, whilst the gelatine on the plate made with the pump water had completely liquefied and had an offensive smell. Shortly before Christmas, when the occurrence of diarrhœa was first generally known, the surroundings of the well, which is at the end of the school garden, had been under water and the water yielded by the pump was turbid. I found, however, that cases of diarrhœa had occurred at an earlier date and amongst families the members of which had never used this water and also that from Dec. 27th to Jan. 8th the pump had been frozen up, that on Jan. 8th it was broken in an attempt to thaw it with a red-hot poker and that it was not repaired until Jan. 22nd. For nearly a month, therefore, this pump had been out of use, yet cases of diarrhœa, or, as it was now called, English cholera, occurred daily. I was speedily enabled to eliminate this water-supply from my list of probable causes and then determined to make a house-to-house visit through all the more readily accessible portions of the parish.

Ford End is an ecclesiastical parish with an area of 2837 acres and a population of 775 (1881 census). It is several miles from a railway station. Besides the numerous scattered farmhouses there are groups of houses or hamlets called North End, Littley Green, Linktail Green &c. The largest group of cottages, with church, chapel and school, constitutes the village of Ford End. Most of the parish is upon boulder clay, but in a valley which bifurcates near the centre of the area now under consideration London clay is exposed. Between the boulder and the London clays is a thin layer of gravel and sand, and at its outcrop there are several springs which supply most of the water used in the parish. All the inhabitants are either engaged in agricultural pursuits or are dependent upon agriculture. During my three days' inspection I called at 120 houses and obtained full information at 101. These 101 houses contained 411 inhabitants as follows:

	Under five years of age.	Between five and ten years of age.	Between ten and fifteen years of age.	Between fifteen and twenty-five years of age.	Over twenty-five years of age.	Total.
Males	20	33	32	25	98	208
Females ...	26	41	33	9	94	203

Amongst these people 68 cases of diarrhœa had occurred between the beginning of December and the end of January. The age and sex distribution of the cases was as under:

	Under five years of age.	Between five and ten years of age.	Between ten and fifteen years of age.	Between fifteen and twenty-five years of age.	Over twenty-five years of age.	Total.
Males	3	10	4	2	9	28
Females ...	6	16	9	0	9	40

In proportion to their numbers it is obvious that children at school age had suffered most severely, as the following figures show:

	Per cent.
Number of children attacked under five years of age...	19·5
Number of children attacked between five and fifteen years of age...	28·1
Number of persons over fifteen years of age ...	8·8

The larger proportion of female children attacked is also noteworthy:

	Females. Per cent.	Males. Per cent.
Under five years of age	23·0	15·0
Between five and fifteen years of age ...	33·8	21·5

Out of the above 101 houses children from 46 were attending school (Ford End), and in 29 of them cases of diarrhœa had occurred. In the other 55 houses there were no children of school age and the inmates of only 11 of these houses were attacked. In thirty-eight instances I was able to ascertain with tolerable certainty the age, sex &c. of the person first attacked, and, curiously enough, notwithstanding the greater number of females ultimately attacked, the first patient was more frequently a male. In 23 houses a male was first affected and in 9 instances he was over twenty-five years of age; and in 15 houses a female was first affected and in five instances she was over twenty-five years of age. In only 20 out of the 46 infected houses from which children were attending school was a child the first to suffer from diarrhœa; in the remaining houses some other inmates had been previously attacked. Of the twenty school children ten were males and ten females.

The first cases of diarrhœa which could in any way be associated with this outbreak occurred early in December, but the maximum number of houses invaded (11) occurred in the week ending Jan. 14th. Not many houses had been visited, however, before I was struck by the fact that where there had been diarrhœa there had been other forms of sickness, whilst very few cases of illness were heard of in the houses in which no inmate had suffered from diarrhœa. Many patients had but slight attacks and very little pain—these were children more especially. Others suffered more severely and were attacked with diarrhœa without any marked premonitory symptoms. Children going to or returning from school had to hasten home, but on arrival had to have their clothes and bodies washed. In the majority of cases, however, the patients had been ailing for one, two or several days before the diarrhœa supervened. The motions were offensive, but there was no evidence obtained of their being infective. The premonitory symptoms varied considerably, but corresponded closely with those from which others had suffered who did not afterwards have diarrhœa; in fact, in the majority of severe cases the diarrhœa seemed to indicate the crisis in the course of some other disease, for much more rapid improvement followed in the persons attacked with diarrhœa than in the others.

Since there has been no explosive outbreak and some of the earlier and many of the later cases were in houses having no connexion with the school, it is evident that school attendance was not a factor of primary importance in the dissemination

of the disease. The Sunday-school treat, choir supper and similar festivities were easily eliminated as causes. The milk supply required very little consideration. Several of the affected families never used milk and the others obtained their usually very limited supply from half a dozen different sources. Food stuffs also were obtained from three or four different dealers, one local, the others from distant towns. Some patients thought frozen apples might be the cause, others an orange or fig, others the possibly polluted water supplies, and still others attributed it to severe cold or influenza. What has already been stated and the following notes of the statements of a few of the patients will, I think, prove conclusively that the epidemic was one, not of English cholera, but of Russian influenza.

1. A labourer's family. One of the earliest cases of which I could get an account was that of a child aged four. He was ill during the first week of December, and then, when recovering, was attacked with diarrhœa. No other member of the family has since been affected, but many in the cottages around have.

2. A labourer's family. The father was attacked on Dec. 26th. All his limbs ached, but the pain in the spine and back of the head was especially severe. The man considered himself to be suffering from influenza when diarrhœa set in. He then made a speedy recovery. On Jan. 24th a boy aged seven had diarrhœa lasting three or four days. The mother and two other children of the family were not affected.

3. A labourer's family. The wife was in a low condition of health, suffering for a week from pains in the legs, back, and all over the body. She experienced severe pain at the top of the head, feeling first cold, then hot. There was great depression. Vomiting and diarrhœa supervened on Jan. 23rd and continued for two days, when she recovered rapidly. The husband was then attacked, feeling very weak and depressed. His symptoms were very similar to those he experienced a year ago when suffering from an attack of influenza. The three children in the house were not affected.

4. A wheelwright's family. On Jan. 14th a girl aged about eleven years complained of pain in the head and seemed very ill and feverish. There were vomiting and diarrhœa with much griping pain. After being away from school for a week she was still feeble. Her mother then suffered from pain in the head and abdomen, but had not as yet had diarrhœa.

5. A labourer's family. On Jan. 11th a girl about nine years of age had diarrhœa. Her sister, eleven years old, was attacked two days later, and the mother on the 22nd. Severe pain in the head was felt by all the patients, and the mother said "her bones ached just like influenza." The father and two other children were not affected.

6. A labourer's family. A boy aged eight had diarrhœa. In the following week the mother suffered from intense pain at the top of the head and between the shoulders. She ached from head to foot. Diarrhœa set in and on Feb. 2nd she felt quite well.

7. A pauper adult. The patient had much pain in the head and chest, and later in the abdomen, when diarrhœa set in. The latter commenced on Dec. 23rd, after a few days' feeling of weariness &c.

8. A labourer's family. Just before Christmas a boy aged five had diarrhœa. A fortnight later the mother complained of intense pain in the head and back. She had no strength to stand. Diarrhœa supervened, though it was not severe, and recovery was scarcely complete on Feb 3rd. She said she had had influenza twice previously and felt certain that this was a slight attack of it, although she did not suffer from diarrhœa on either of the previous occasions. The other members of the family were not affected.

9. A brewer's family. A boy aged three had an attack of diarrhœa about Jan. 20th. He was sick after everything he ate and drank and his head was intensely hot. A few days later a girl aged two was similarly affected. Neither of the parents had had diarrhœa.

10. A clergyman. On Jan. 27th he came home from a short walk and felt thoroughly exhausted. During the night or early the next day diarrhœa suddenly supervened and he at once felt better. Last year he had a severe attack of influenza at Heidelberg, feeling tired and depressed. The symptoms he suffered from on the 27th were, he said, similar in all respects to those he experienced at Heidelberg.

11. A labourer's family. A week after Christmas the father had a very bad cold—coryza, bronchitis, asthma and great weakness. The medical man who was called in said he was suffering from influenza. On Jan. 18th a boy aged eight was seized during the night with violent pain in the bowels (he had been ill for a week previously); he was cold and white and screamed so violently that it was thought he was dying. Violent diarrhœa supervened after a dose of castor oil. The next day he was almost well. The father, who has had no diarrhœa, recovered very slowly.

12. A farm bailiff's family. The mother was taken ill the day before Christmas. The attack was like "a violent cold all over her body." She could scarcely crawl about; she said she "never felt so weak in her life." She had shivering fits like ague, followed by sickness and diarrhœa. On Dec. 26th a son aged twenty-one was ailing, leg-ache being the principal symptom, until diarrhœa set in. About a week afterwards he had a relapse. A girl aged five had all the symptoms of a common cold; this was followed by diarrhœa. Two other children have been similarly affected since.

13. A labourer's family. The father became ill about Christmas and had to leave his work. His legs were numb and cold. He had flying pains, especially down one side, and felt very weak indeed. Diarrhœa set in, and during the same week his wife and three children were very ill and also had more or less diarrhœa.

Much of the information obtained from the families visited was very vague. The date of the onset of disease when severe and sudden could generally be ascertained; but in the majority of cases the patients had been "sadly" for an unknown number of days before the most prominent symptom, usually diarrhœa, was observed. Tracing the infection from family to family was impossible, but usually when one person in a group of cottages had developed diarrhœa it was found that others in the houses around either had influenza at the time or very soon after. The 68 cases of influenza associated with diarrhœa reported upon occurred in 38 houses. There were 22 houses with 1 case each, 7 with 2 cases, 5 with 3 cases, 3 with 4 cases, and 1 with 5 cases. The total number of cases of influenza which occurred in these houses during the period under examination would be near 100. This estimate would give about 70 per cent. of cases of the gastric type "especially noticed in children and marked by vomiting, diarrhœa and other symptoms of gastro intestinal disturbance."[1] The peculiarity of this outbreak lies in the fact that the proportion of cases of the gastric type to those of the nervous and catarrhal types is very much larger than has been previously observed. At Morningside Asylum 25·7 per cent. of the persons attacked, all of whom were adults, suffered from diarrhœa, and 38·6 per cent. from vomiting. As children are more prone to this form of the disease it is perhaps not very remarkable that in a small community containing many children an outbreak in which 70 per cent. of all cases are of the gastro-intestinal variety should occasionally occur. Why this form should have been so prevalent here is a subject for speculation; but I am inclined to think that in the recrudescence of the disease which is now occurring throughout the country this type is much more common than during previous visitations. Within the last few days I have heard of a number of such cases in other districts, and Dr. Cook of Colchester (medical officer of health of the Lexden, Winstree and Tendring rural sanitary districts) informs me that he has recently investigated an alleged outbreak of English cholera and has come to the conclusion that it is really influenza. In nearly every instance I found that the inmates of the affected houses had suffered from two or three attacks of influenza previously. Will this gastric type of the disease predispose or render a patient more susceptible to Asiatic cholera? If so, it is sincerely to be hoped that it will not become general. In conclusion, it may be interesting to note that, there being no medical man within four or five miles, the vicar administered chlorodyne to the sufferers, and that it had no effect whatever upon the diarrhœa. Castor oil seems to have been most generally useful.

Chelmsford, Essex.

[1] Dr. Parson's report to the Local Government Board, p. 64.

VICTORIA UNIVERSITY.—The following are the titles of dissertations the writers of which become eligible for the degree of M.D. of the University. For the first two of these essays a gold medal was awarded, respectively: For a dissertation on Developments of the Septum Transversum, by A. J. Chalmers, M.B.; for a dissertation on the Pathology of the Vermiform Appendix, by T. N. Kelynack, M.B. The dissertation of E. M. Brockbank, M.B., on Gall-stones, was deemed worthy of honourable mention.

HÆMOGLOBINURIA COMPLICATING ACUTE LOBAR PNEUMONIA; RECOVERY.[1]

BY W. GIFFORD NASH, F.R.C.S. ENG., L.R.C.P. LOND.

A GIRL aged sixteen on the night of Oct. 11th, 1892, went to bed in a cold room quite well, but she soon began to shiver and continued to do so all night. Next day she remained in bed with a cough, pain in the side and fever. On the 13th, when I saw her, her temperature was 104·8°, the pulse 112 and the respiration 30, and there was pneumonia of the left lower lobe. A systolic bruit was present at the heart's apex and there were general aching and headache. The treatment adopted was the application of poultices over the heart and affected lung and the administration of two grains of quinine every four hours, and she was given four ounces of brandy and three pints of milk in the twenty-four hours. The next day the temperature was 104·6°, the pulse 112 and the respiration 34. The urine passed at 10 P.M. was of a dark-yellow colour, the sp. gr. being 1030; it was acid and did not contain albumen. On the following day (the 15th) the urine passed in the early morning was blood-stained and the trained nurse thought the catamenial flow had commenced. Later in the day, as the urine continued to be bloody and was diminished in amount, I thought acute nephritis had set in; and the brandy and quinine were omitted and a mixture containing digitalis, nitrous ether and acetate of ammonia was given. There were severe pains in the back and limbs and at night she was delirious. On the 16th the physical signs of pneumonia continued, but there was no expectoration. There were great anæmia and breathlessness, the urine was of a brown colour, resembling porter, and there was great pain all over the body. At 5 P.M. the temperature was 98·2° in the axilla and 103° in the mouth; the respiration was 54 and the pulse 120. (Up to this date the temperature had been taken in the axilla, but after this it was always taken in the mouth.) On the 17th the urine was still like porter, and suspecting that it was not due to ordinary acute nephritis, I examined it under the microscope and found that there were no blood cells present, but numerous small bright-red granules arranged singly and in rows, a few granular casts and much granular débris. On boiling the urine it gave a chocolate-coloured precipitate amounting to one-third of its volume, which floated on the top of the urine in the test-tube for several hours. The guaiacum test gave a blue colour. The diagnosis of hæmoglobinuria was then made and brandy and quinine were again given. On the 18th the urine was sherry-coloured and smoky, of a sp. gr. of 1020, and gave one-sixth precipitate of albumen. The crisis now occurred, the pneumonia began to resolve and the kidneys to secrete more urine. After this the pneumonia rapidly cleared up and the hæmoglobinuria gradually disappeared, so that by the 23rd, after lasting eight days, all traces of blood-colouring matter and albumen had gone, the latter being the last to disappear. Hæmic bruits were heard at the apex and the base of the heart for several weeks. The urine was examined from time to time and was always found to be normal except for the occasional presence of oxalate of lime crystals. The girl has recovered from her anæmia and looks very well.

Remarks.—There can be no doubt as to this being a case of hæmoglobinuria, and I believe it was in this instance a complication of acute pneumonia—i.e., that the blood destruction which gave rise to the hæmoglobinuria was due either to the pyrexia of the pneumonia or to the influenza poison which may have produced the latter. The alternative explanation is that it was a case of intermittent hæmoglobinuria occurring in a malarious subject, and in support of this are the facts that the girl was liable to chilblains and dead fingers, and that she had lived in India until the age of six, and had been subject to malaria up to the age of two, which is a common predisposing cause of this variety of hæmoglobinuria. Against its being a case of intermittent hæmoglobinuria due to cold acting on a malarious subject and in favour of its being produced by the pyrexia of pneumonia or poison of influenza are the following points: 1. The girl had been ten years in England and had never suffered from ague or bloody urine. 2. The pneumonia preceded the hæmoglobinuria by four days, and therefore was probably the cause of it. 3. In cases in which hæmoglobinuria is paroxysmal and produced by cold, the hæmoglobinuria usually follows within a few hours the exposure to cold; but in this case it commenced on the fifth day and there was no exposure to cold after the night of the onset of the pneumonia. 4 It is well recognised that hæmoglobinuria may arise in the course of acute fevers such as typhoid and scarlet fever (Cohnheim), being due to pyrexia or blood-poisoning; it occurs in severe burns and is then due to the destructive action of heat on the blood circulating in the superficial vessels. In this case the hæmoglobinuria appeared on the fifth day of the illness and on the third and fourth days the temperature was nearly 105°, so that there were both pyrexia and the poison, probably influenza, which produced the pneumonia. 5. Certain drugs are known to produce it, but quinine, which is the drug generally used in its treatment, was the only one previously administered. 6. Since her illness the girl has frequently been exposed to severe cold and has had no return of hæmoglobinuria. 7. Another argument in favour of pneumonia being the cause is the fact that jaundice is a well recognised complication of pneumonia. No one will deny that in all pyrexial conditions there is an abnormal increase in the disintegration of blood-corpuscles. If this increased destruction is moderate then there is merely an increase in the urinary pigment; if severe, then an icteric hue of the skin and urine is not uncommonly noticed; and if very severe, which is rare, there occurs hæmoglobinuria. I am not aware that jaundice complicating pneumonia is confined to those who have been exposed to malarious influences. This case appears to be unique in so far as the hæmoglobinuria was a complication of pneumonia. The reverse has happened, for Dr. Dickinson relates two cases of hæmoglobinuria in which pneumonia occurred, one of them being the celebrated case of Dr. Druitt, who suffered for many years from paroxysmal hæmoglobinuria and died of pneumonia. There were several interesting features in the case, as follows: (1) On the fourth day only was there any expectoration; (2) the very marked anæmia and breathlessness, the latter being quite out of proportion to the amount of lung affected, and evidently due to the great blood destruction; (3) the very distressing aching all over the body, especially affecting the loins, which lasted several days and was no doubt due to the blood change; and (4) the fact that on Oct. 16th the temperature in the axilla was 98·2°, and in the mouth 103°, this being apparently due to the contraction of the peripheral vessels. The case also exemplifies the importance of examining blood-stained urine microsopically to distingvish between cases of hæmoglobinuria and hæmaturia. Whilst inquiring into the literature of hæmoglobinuria I was struck by the fact that for many years it has been known that extensive burns will produce hæmoglobinuria, but I have never met with any mention of this fact in English text-books on surgery. They seem to ignore the urinary and renal changes in those suffering from severe burns. I was always taught that the kidneys were simply acutely congested along with the other internal organs, but it appears that the dark, brown-red colouration of the kidneys is due to the presence of globules of hæmoglobin in the urinary tubules. The occurrence of hæmoglobinuria in cases of burns is mentioned in Fagge's Principles and Practice of Medicine and Fowler's Dictionary of Medicine and was alluded to by Dr. William Hunter in his recent lectures on the Physiology and Pathology of Blood Destruction. I have not been able to examine the urine from anyone suffering from extensive burns since I became acquainted with this subject, but my friend, Mr. Stanley Thomas, house surgeon to the South Devon Hospital, Plymouth, has done so. The following are his notes of a case. A woman aged twenty-five was severely burned by the upsetting of a lamp, only a small portion of skin on the back escaping. She lived for two days after the accident. Great difficulty was experienced in obtaining a specimen of urine and the quantity passed could not be measured. The urine was acid, the sp. gr. being 1020; it was of a dark-brown colour, with a brown precipitate; albumen one-fifth. Blood was detected with the guaiacum and ozonic ether test. Under the microscope large round granular bodies as big as pus cells were to be seen and granular casts, but no crystals or red blood-corpuscles. On post-mortem examination a section of kidney under the microscope appeared to be in a state of acute nephritis.

St. Peter's, Bedford.

[1] Abstract of a paper read at a meeting of the Cambridge Medical Society on June 2nd, 1893.

COMPLICATIONS OCCURRING IN PLEURISY.

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AND
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SUDDEN death occurring in pleurisy is a rare event and any general explanation of its cause is unsatisfactory. The following case, though not, perhaps, throwing much light on the subject, is, we think, worthy of record on account of its sudden termination and interesting complications.

The patient's family history was good; her brother and sister are healthy; her father died from small-pox at an advanced age, but was said to have had a "weak heart" and had frequent attacks of congestion of the lungs; her grandfather died of rheumatic gout at thirty-five years of age. The patient was forty-five years of age, had been married fourteen years, but had never borne children. She enjoyed good health till four years ago, when she began to suffer from pain and frequency of micturition with pyuria, evening pyrexia and aching pain in the right loin and hypogastrium. The symptoms became more urgent and nephrectomy was proposed but was not performed. She had, however, some ulceration of the bladder scraped two years and a half ago. In the few months that followed her health gradually improved and her symptoms became less severe. The urine, however, never became clear, the amount of pus varying. Tubercle bacilli were found on one occasion. More recently she had pain in the left loin and when we first saw her it was to the left side that she drew our attention in speaking of her kidney trouble. She arrived in Italy last December. Throughout February she complained of pain in the left loin and during the last ten days of that month of pain in the left shoulder, in "the side" and over the left crista ilii. She was told that the pain was pleuritic; she was not, however, kept in-doors, and she proceeded in a few days to a neighbouring town, where the pain was attributed to some nephric or perinephric inflammation, which opinion was strengthened by an evening pyrexia and a doubtful fulness in the region of the left kidney. She had been confined to bed five days previously to our first visit and her friends reported having noticed occasional attacks of breathlessness during conversation. She knew of no cause for her illness and could not fix any exact date for its commencement. On the night of Feb. 27th she awoke with intense pain below and outside the left nipple, which continued without much change till after aspiration. On our visit on Feb. 28th the patient was propped up in bed, inclined to the right side. She was in great distress and somewhat livid, complaining of intense pain over the area outside and below the left nipple, also of pain, though less severe, over the left shoulder. The temperature was 100·5° F., the pulse was 130 and the respiration 48. There was slight fulness above and below the left clavicle, which was not tender, nor did it pit on pressure. Movement of the left side was much impaired and cough and vocal fremitus were absent. On percussion there was absolute dulness over all the left lung, back and front, with increased resistance. The breath sounds were very faint and tubular. The right lung was dull behind up to the angle of the scapula and there was crepitation; above it was hyper-resonant. The heart could not be distinguished by percussion nor could its impulse be felt. The sounds were most intense behind the right border of the ensiform cartilage; on tracing them outwards towards the normal position they became suddenly suppressed an inch to the left of the sternum. They were feeble in character, but not otherwise changed. The kidneys could not be palpated very thoroughly owing to the intense pleuritic pain and dyspnœa, but she did not complain on fairly firm pressure. There was no tenderness in the region of the hypogastrium and no œdema of the legs. The urine was acid, sp. gr. 1020, with traces of albumen and a deposit of pus (one-sixth). Microscopically there were few formed cells, but abundant granular débris. She was ordered a mixture composed of carbonate of ammonia, digitalis, strychnia and ether, and 8 oz. of brandy, 2 pints of beef-tea, 1 oz. of beef extract and 2 pints of milk. On March 1st the general condition of the patient was worse. A Potain's aspirator was inserted in the sixth space in the mid-axillary line, but no fluid came away. She complained of great pain over the left shoulder. The next day the aspirator was inserted at the same level, but one inch and a half nearer the spine and one litre of turbid serum with flakes of lymph was aspirated. There was no cough during the operation, so the pleura was emptied and the puncture closed with cotton-wool soaked in collodion and with strapping. The aspiration gave great relief to respiration, and she made no further complaints of pain over the shoulder. On the morning before the aspiration the temperature was 101°, the pulse 135, and the respiration 42. In the evening afterwards the temperature was 100·6°, the pulse 122 and the respiration 34. The following day the temperature was 98·4°, the pulse 110, and the respiration 30; she had passed a good night. The left lung on percussion above a line running from the second costal cartilage to the anterior axillary fold gave a clear, high-pitched note of tympanitic quality (Skodaic resonance). Below this line there was a high-pitched more toneless note, devoid of any tympanitic quality. Behind up to the sixth spine a tubular stomach note was elicited; above this a high-pitched note slightly deficient in tone with quality unchanged. Nowhere was there complete dulness. A few crepitations were audible over the left apex; over the remainder of the lung faint tubular breathing was heard. Both dulness and crepitations at the base of the right lung were much diminished. The heart's impulse could be felt in the right fourth interspace close to the sternum. The cardiac dulness extended one inch to the right of the sternum. On March 5th the temperature, respiration and pulse were about the same, and remained so till death. Dulness and crepitation at the base of the right lung were very slight. There was no change in the character of the sounds on percussing the left lung, but Skodaic resonance had increased to the level of the third rib in front; behind, the stomach note extended upwards to the level of the fourth spine. She was ordered a mixture of iodide of potassium (5 gr.), with acetate of ammonia and digitalis. There was no further change in the physical signs in the chest. The improvement in her general condition continued and she was fairly comfortable and had little pain, whilst the dyspnœa was not distressing. Slight œdema of the left fingers and hand appeared and increased gradually, with tingling pain. On March 7th the whole arm and hand were involved in the firm white swelling, which diminished gradually over the shoulder and left side of the neck. The tissues did not pit readily; both brachial and radial vessels pulsated; the brachial vein was slightly tender for about an inch of its course and the external jugular extremely so. There was no enlargement of the axillary glands. The arm was kept elevated on pillows, wrapped in cotton wool and a warm lead and opium lotion was applied. The deposit in the urine decreased and she passed on an average from forty to fifty ounces per diem. There was no further change in the signs, symptoms or general condition till March 9th. The arm gave her little trouble; she took nourishment well, talked cheerfully and was interested in things around her. At 10 A.M. on March 9th she suddenly complained of great pain to the right of and below the ensiform cartilage with dyspnœa, and died in ten minutes.

Necropsy.—The body was well nourished. There was swelling of the left upper extremity with staining over the external jugular vein. The heart lay behind the sternum and there was a large amount of superficial fat covering it. About six drachms of serous fluid escaped from the pericardium. The serous membrane was pale, smooth and glistening, the walls were thin and pale but firm to the touch, and the endocardium and valves were normal. The cavities were empty, but the aorta, pulmonary arteries and vena cava contained dark fluid blood; the vessel walls within the thorax were normal. The right lung was crepitant and normal; there were slight old pleural adhesions. Of the left lung all the lower part and about half of the upper were completely collapsed, airless and slate-blue in colour, the apical portion of the upper lobe being expanded and crepitant. The whole pleura was red and œdematous and there was much gelatinous lymph of recent formation about the base and sides. There were no tubercular deposits in either lung. The spleen was enlarged and softened. The right kidney was enlarged and there was much perinephritic thickening. The surface was covered with numerous hemispherical elevations, and on section the kidney showed advanced pyo-nephrosis, the pelvis being greatly thickened and the tubular structure completely destroyed. The cortex was converted into saccules which communicated with each other and contained white inspissated pus with small gritty particles. The saccules were bounded by thick fibrous walls lined by smooth membrane which

formed septa between them. The ureter was thickened but pervious. The bladder showed no trace of disease. The left kidney was much hypertrophied, being about one and a half times the usual size. It was globular in form and movable. The tissue was normal and there was no trace of tuberculosis. The uterus, tubes and ovaries were normal. An examination of the cranium or great veins of the neck was not allowed.

Remarks.—This case is a striking example of a primary tuberculous lesion remaining confined for four years to one kidney, without secondary deposits appearing either in the lungs or other organs and without any direct extension along the genital or urinary tracts. The globular form of the left kidney, presumably assumed during its compensatory hypertrophy, apparently favoured its becoming mobile, not only by its increased bulk projecting into the abdominal cavity but also by its raising up the peritoneum and by its change of contour. Clinically this condition of the kidney is of great importance, for there was the great probability that pain and enlargement of the left kidney, occurring consecutively to similar events in the right with cystitis, were due to extension of tubercularisation to the other organ. But such an inference would entirely mislead the surgeon when weighing the *pros* and *cons* of operative treatment. Catheterisation of each ureter would be of great service, and also the fact that the pain subsided after a few days' confinement in bed. The symptom of pain gave rise to some confusion, but the nephritic pain was of many months' standing, whilst the recent shoulder pain probably marked the onset of the pleurisy. The intense pain which came on in presence of the large effusion, and which subsided after aspiration, seems rather to have been due to pressure on inflamed nerve endings than to any friction of opposed surfaces, as the lung was collapsed and relief followed aspiration. The case illustrates some interesting points as regards the percussion note commonly known as Skoda's resonance. Its cause is obscure and the current theories of its causation somewhat at variance. Whether this sign was present during the accumulation of the fluid we do not know, but after complete withdrawal of the fluid it made its appearance and remained unchanged except for a slight increase in area for ten days, when the necropsy demonstrated absence of fluid, either free or loculated. The effusion therefore probably caused the changes in the lung which gave rise to the Skodaic resonance, but its actual presence was not an essential factor for its maintenance, though undoubtedly the two are generally found together. Effusion acts merely as the exciting cause of other conditions, which appear to be diminution of the respiratory area of the lung in one part with airlessness varying in degree, and a remaining crepitant part in contact with the parietes. Though its commonest cause is fluid effusion, a similar phenomenon has been observed above hepatised lung. Dr. Wilson Fox has collected and summarised the recorded cases of sudden death in pleurisy with the probable and verified causes of death. We quote those in which an interval elapsed between paracentesis and death and in which the result was not directly due to the operation.—*Case 1:* Death whilst washing out the pleural cavity one month after paracentesis. Hæmorrhage into the septum of the heart was found at the necropsy.—*Case 2:* Fatal syncope on the seventeenth day. The heart was fatty and contained a thrombus which extended into the pulmonary artery.—*Case 3:* Death on the thirteenth day; no cause discovered.—*Case 4:* Death on the twelfth day whilst walking upstairs, probably due to pulmonary embolism.—*Case 5:* Death forty-eight hours after operation (probable thrombosis of great veins of the neck); unverified.—*Cases 6 and 7:* Death on the tenth and nineteenth days respectively from pulmonary hæmorrhage. Potain, Vallin and Lépine have also recorded cases in which paracentesis was not performed, in which death resulted from cerebral embolism. Comparing this case with the latter series it will be observed that there were no symptoms whatever of cerebral embolism. Of the former series it bears most resemblance to Cases 2, 3 and 5, especially considering the presence of phlebitis of the external jugular and axillary veins. The analogy was not, however, borne out by the post-mortem examination, when neither thrombosis nor embolism was found in the heart, lungs or thoracic vessels. We noted that though the displacement of the heart was considerable it had not interfered with the normal calibre of the great vessels. Cardiac failure rather than paralysis of the respiratory centre appeared from the final symptoms to be the cause of death. The heart was organically weak; it was subjected to the additional tax of pressure and displacement for a considerable period, at a time, too, when aeration of its blood-supply was seriously interfered with. We believe the heart under such adverse circumstances was unable longer to combat successfully the increased peripheral resistance offered by the diminished lung area and succumbed under the difficulties we have indicated.

San Remo, Italy.

TWO FATAL CASES OF POISONING BY STRYCHNINE.

BY HENRY PILKINGTON, M.R.C.S. &c.

CASE 1.—On July 13th, 1892, I was called at 6 A.M. to see a young woman aged seventeen, who was thought to be in a fit. On arriving at her abode (about seven or eight minutes' walk) I found the girl fully dressed and lying on a sofa, with traces of having recently vomited. She was quite unconscious, the face was livid, the pupils were contracted, and the jaws were partially clenched; the pulse was about 90, rather weak; and there were convulsive movements of the extremities and slight spasmodic twitchings of the fingers like subsultus tendinum. Her parents stated that she had risen about 5 A.M. apparently quite well, and to their knowledge had taken nothing, not even her usual cup of tea. They could not remember that she had that morning been apart from some one or more members of the family for even five minutes. Their statements were somewhat contradictory, but that might have been due to their distress or anxiety. I left to get some remedies, having given instructions to keep anything she might vomit during my absence. When I returned I found the girl was much worse. She had vomited about one ounce of greenish fluid and had been much convulsed, and her face was darker and respiration was slow and laboured; the pulse was about the same; and there were still convulsive twitchings as when I left her. The respiration slowed until she only gave an occasional gasp. She died about an hour after I first saw her, or about an hour and a half from the beginning of the attack, the pulse beating regularly during and even after her last gasps. I reported the case to the coroner and police as a death not due to natural causes. I was informed that, after inquiring into the circumstances, it was not deemed necessary to hold an inquest and there was no necropsy. For my own satisfaction I submitted the small quantity of vomit to an analyst and he sent me a certificate to the effect that he had found strychnine in it.

CASE 2.—On April 10th, 1893, I was called to see a man residing four miles from my house. He was a chemist and druggist, twenty-nine years of age, of very regular habits and fond of athletic exercises. At 11.30 A.M. the same day he was seen by a friend and made arrangements to meet him at the cricket ground that afternoon. Twenty minutes afterwards the patient's brother called at the shop, and seeing several customers waiting to be attended to, he entered the kitchen behind and found his brother lying on the floor quite unconscious and observed that he had vomited recently. Local assistance was called in and I was telegraphed for. I arrived at 2.30 P.M. (two hours and three-quarters after the patient had last conversed with his friend) and found him to be in the following condition: He was lying on the floor quite unconscious; the eyelids were very puffy and red; the pupils were very uneven, the right being contracted and the left dilated; the pulse ranged from 84 to 90; the temperature was 100·8°; he had convulsions at quick and irregular intervals, started by the slightest touch, even that of feeling the pulse; there was inability to swallow, but no trismus; and the fingers were clenched over the thumbs and the toes were incurvated. He had vomited, but unfortunately the vomit had been removed from the floor and could not be collected. With the acquiescence of the practitioner present I gave an enema containing 30 grs. of chloral hydrate. Afterwards the convulsions decreased in number and severity, and the pupils became equal in size some little time before death. I was with the patient about three hours, during which time his pulse continued to be good, but about 5 P.M. respiration became very laboured and gradually slowed, so that when I left at 5.20 P.M. he was only gasping at long intervals, although the pulse was regular and only a little weaker. He died seven or eight minutes after I left him.

Post-mortem examination, twenty-two hours after death.—

The weather was fine and cold. Rigor mortis was extreme all over the body, which was well nourished. There were no bruises or wounds to be seen. On removing the scalp the dura mater was nowhere adherent to the skull cap but was very congested, and the veins and sinuses about the brain and cerebellum were filled with dark liquid blood. The membranes were nowhere adherent to the brain. On slicing the brain horizontally, from above downwards, no local extravasations into the brain substance appeared. Both lateral ventricles were full of dark-coloured semi-fluid clots. Body: The muscles, including the diaphragm, were very congested, of a lake-red colour; the superficial veins of the stomach and intestines were greatly distended with dark liquid blood, and the pericardium was normal, its cavity containing about two ounces of clear fluid. The right lung was almost generally adherent to the chest walls laterally and posteriorly and to the diaphragm, no fluid being found in either pleural cavity; the lungs were congested, the apices being healthy. The heart was normal in size, both ventricles and auricles being empty and all valves competent. The liver was normal, except slightly adherent to the diaphragm opposite to the adhesion of the right lung. The stomach contained only a very little fluid; it was not opened but was tied, cut out and sent with the liver, spleen and kidneys in one jar, and with the brain in another, for chemical analysis. The intestines were slightly distended but empty. The right kidney was very large, a little congested, and the capsule was non-adherent; the left kidney was very small (about one-fifth the size of the right), and the capsule was adherent. The bladder contained only a little urine.

At the inquest, held on April 11th, I gave evidence to the effect of the above notes, and in replies to direct questions I stated I thought that the death was due to poison and that the poison was strychnine. The inquest was adjourned till May 2nd to allow time for analysis. The reports from the county and assistant county analysts were that strychnine had been found in the viscera sent. The verdict was, "Death from poisoning by strychnine, but no evidence to show how administered."

In these cases I believe there are some symptoms not usually to be found in cases of poisoning by strychnine—namely, the vomiting and the almost immediate unconsciousness. I suppose that in each case a large dose of the poison was taken when the stomach was empty and the shock caused the hæmorrhage into the ventricles. In both cases respiration slowed rapidly, whilst the pulse continued with slight alteration and stopped after cessation of breathing. Both the patients were healthy, strong and young, and were in comfortable circumstances. Such cases are rare in country practice, and judging from the strange circumstances and symptoms I think in all cases of sudden illness the possibility of poisoning should never be lost sight of and it is particularly to be desired that the vomit (if any) be preserved, for in some recorded cases of strychnine poisoning where the vomit has been lost the analysts have failed to find the alkaloid in the viscera.

Stanley-street, Ormskirk.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL.

THE TREATMENT OF TUBERCULOUS DISEASE OF JOINTS BY THE INDUCTION OF LOCAL ŒDEMA.

BY W. H. BROWN, F.R.C.S.I.

THERE appeared in THE LANCET of Nov. 19th, 1892, an account of the treatment of tuberculous disease of joints by the application of elastic ligature above the affected parts. The results were noted as having been very satisfactory. I have since had opportunities of trying this plan of treatment in nine cases taken from amongst my hospital patients, and my experience does not in any way enable me to confirm the favourable report given by Mr. Page. The cases were as follows: Two diseased knee-joints, in an early stage, without sinuses; two diseased ankles, also in an early stage in children under seven years of age; two diseased elbows, one in a patient aged twenty-two and one in a patient aged seventeen, both in an early stage; two diseased wrists, both being old cases with sinuses, in patients aged twelve and fifteen; and one interphalangeal joint of the thumb, in a boy aged fifteen. These cases were daily under observation for one month, and the treatment was carried out in strict accordance with the description contained in Mr. Page's article. At first a slight improvement was noticed, but this may be fairly attributed to rest in bed and better surroundings. Everyone connected with a hospital knows that a few days in bed make a vast difference in the appearance of the tuberculous joint of an out-patient. At the end of a month, in the cases referred to above, both of the knees and one of the elbows were excised and the ankle was amputated. The patient who was the subject of the other elbow case withdrew from the hospital and we could not trace him. The boy with the diseased inter-phalangeal joint of the thumb, whom we treated as an out-patient, certainly improved for a time, but we had every reason to suspect that he removed the ligature as soon as he left the hospital and replaced it just before he came up to be seen. The wrist cases remained in much the same condition as they were before the treatment was commenced. It will be interesting to know whether any more extended trial of the œdema treatment has been made, and, if so, whether any measure of success has attended its application. Whilst on theoretical grounds it appears reasonable to suppose that tuberculous affections of the skin might yield to the œdema plan, it hardly appears possible that the same result will follow when deeper parts are involved. The pain produced was not great. Of course it may be said that in all these cases the disease was too far advanced to permit of the passive œdema checking its course. I can only reply that the cases were in an early stage and appeared to answer the description of the class of cases mentioned by Mr. Page as being under treatment at Kiel.

Queen-street, Leeds.

ULCER OF THE TONGUE.

BY WM. ROBERTSON, M.D. GLAS.,
SURGEON TO THE THROAT AND EAR HOSPITAL, NEWCASTLE.

A SHORT account of the following case, in which a novel mode of treatment was adopted with a successful issue, may not prove uninteresting. The patient, a man about forty years of age, when I saw him on March 20th last was suffering from an ulcer of the tongue. There was a history of a specific taint acquired about six years ago. The affection of the tongue had extended over a period of four years and he had been under treatment elsewhere. He had taken stimulants freely and had during the whole time smoked considerably. The organ was painful to touch and during mastication. On his protruding the tongue, which he could do freely, it was observed to be large, flabby and indented, and its surface was covered by a shaggy, grey, thick fur. A large transverse track three quarters of an inch long, with an ulcerated floor, stretched across the mid-dorsal region, and at its right extremity there could be felt in the substance of the tongue a rounded, painful swelling. Rather more than a quarter of an inch in front of this fissure there extended another one, which was neither so long nor so deep, but, like it, had an ulcerated floor. Two quadrilateral areas of thickened and infiltrated mucosa were noticed in front of and behind the anterior fissure, being hard to the touch and prominent. To the right of these areas there extended longitudinally, for over one inch, a shallow ulcer less than a quarter of an inch broad, the edges being indurated. Two symmetrically placed, round, indurated nodules were discovered near the tip in the substance of the tongue and the submaxillary glands were found to be enlarged and indurated, but painless. The treatment consisted in the surface of the tongue being freely soaked for some time in a 20 per cent. solution of cocaine containing resorcin and then being dried with cotton-wool. With a dermal curette the dense fur was entirely removed, with the result that a much better view of the lesions could be obtained. With a dermal galvano-cautery point at a red heat (after injecting a 20 per cent. solution of cocaine in a 2 per cent. carbolic lotion) the thickened areas of mucosa were freely punctured and the three ulcerated tracts were well scored over with the cautery. The effect of the first application was the disappearance of pain from the tongue, easier mastication &c. and a reduction in size of the

whole organ. The patient was in addition to this put upon mercury (by inunction) and the iodide, and a 10 per cent. solution of boracic acid to wash his mouth with after meals was recommended, together with healthy exercise. A few days afterwards the rigid edges of the posterior fissure were destroyed by the cautery and the nodule at its extremity was freely punctured, as well as any portion of thickened mucosa that was missed at the first application. In three weeks' time the dorsum of the tongue had almost assumed a healthy appearance; the raised nodules were gone, the tracks filled up and the ulcers were healed. The patient was forbidden the use of tobacco and stimulants for one year and was told in the meantime to live almost exclusively on farinaceous food, milk &c. A week later the mucosa was healed and was normal to the touch and painless. The ulcers could be traced by three linear cicatrices, which were soft and pliant. The two nodules near the tip were almost gone and the other nodule was just traceable. The inunction was still continued.

Remarks.—At first sight the tongue presented a most suspicious appearance and was referred to guardedly by other medical men who had seen it. The pain was considerable and worried the patient. The three nodules in its substance were also suspicious, although one authority asserts that cancer rarely appears at more than one spot. Yet this statement is not generally accepted. The only treatment adopted had been persevered in for four years without result. There is no doubt that the curette and galvano-cautery were mainly instrumental in bringing about the successful issue. The removal of the sodden epithelium and other decayed products must have lessened the irritation, but the cautery at once abolished pain by destroying terminal nerve twigs. It also destroyed much of the infiltrated tissues and stimulated healthy repair by the absorption of what remained.

Osborne-road, Newcastle-on-Tyne.

STRANGULATED UMBILICAL HERNIA IN A PATIENT AGED EIGHTY; OPERATION.

BY A. MARIUS WILSON, M.B., B.S. DURH., L.R.C.P. LOND. &c.

ON the evening of Feb. 13th I was called in to see an old lady aged eighty. The patient, who was not very stout, had had an umbilical hernia for forty years, but she had managed by means of a belt to keep it smaller than an orange. When I saw her the swelling was the size of a child's head, tense, smooth, resonant in parts, dull in others, and tender on manipulation and with dilated veins coursing over it. The site of the umbilical scar could not be determined. The symptoms were—moderate pain in the swelling, constipation (which was usual with her and for which her friends had given her castor oil) and a considerable amount of thirst and nausea, besides which she had vomited once. Slight taxis made no impression on the swelling, but revealed most tenderness at the upper part. I diagnosed an irreducible obstructed hernia and gave her an enema and put her on ice and iced milk. The enema after a time brought away a soft, fairly healthy motion. Next morning the patient's general condition was still fairly good, but the swelling appeared to be unaltered; there had been more pain during the night, the feeling of nausea was constant, and she had vomited four times. I now explained to the patient and to her friends how hopeless the condition was unless something further was done, and in any case the prognosis was somewhat unfavourable considering the condition and age of the patient. They decided to let me do what I considered best, but postponed matters until her worldly affairs had been arranged. It was nearly six o'clock before the patient was ready, so that everything had to be done by candle-light. Mr. Chas. Jackson gave the patient some brandy and then administered chloroform, which she took well. I then attempted cautious reduction for a few minutes, but without success. Then, having well washed the parts with soap-and-water and bathed them with carbolic solution, I made an incision down the middle line about four and a half inches long and opened the sac on a director for nearly the same distance. There was only a slight amount of bleeding and that came from the dilated veins mentioned above. The sac contained intestine, omentum and a large quantity of clear serum. The intestine and omentum were both adherent in a number of places to the sac and were only moderately congested. Reduction being impossible even after freeing a few of the adhesions, I divided the constricting part upwards and to the left and then returned the gut and omentum into the abdomen. The rest of the thick adhesions were left alone, as, although the patient's condition remained satisfactory, it was not thought advisable to prolong the operation. After cleaning the wound it was closed with carbolised catgut sutures, first the sac and then the integuments, separately. The wound was dressed with cyanide gauze and sal alembroth.

At 11 P.M. the patient's condition was good; she had not been sick since the operation and she had lost the feeling of nausea, but she complained of some pain in the abdomen. She was then given a quarter of a grain of morphia by the mouth and small quantities of iced milk. Next morning she felt quite comfortable, was free from pain and quite refreshed after a good night's rest. The wound was dressed again in the same way and looked quite satisfactory. Since then Dr. Plowright of King's Lynn, whose practice I was taking at the time, has written saying that the case went on very well at first, but that vomiting soon returned. She was kept under opium, consequently the bowels never acted, though she passed flatus. Owing to the retching some of the superficial stitches gave way, but the deeper ones held and that part of the wound closed properly. The patient gradually became weaker and died on the eighth day after the operation, remaining free from pain till the end.

RUPTURE OF TONSILLAR ABSCESS INTO LARYNX, CAUSING SUFFOCATION.

BY THOMAS GANN, M.R.C.S. ENG., L.R.C.P. LOND., J.P.

ON Aug. 26th, 1892, I was called to see a robust, well-nourished Creole woman, who gave the following history. Two days previously she had had a rigor, and since then she had suffered from severe pain in the throat and under the angles of the jaw, together with great difficulty in swallowing and sleeplessness. On examination I found, immediately below the angle of the jaw on the right side, a distinct swelling with pain on pressure. The submaxillary glands and the glands about the angles of the jaw were enlarged and painful and the skin was hot and dry. The temperature was 105°; pulse 118. The tongue was thickly coated with white fur. Great pain was complained of in the back of the throat with inability to swallow even small quantities of fluid; there was constant dribbling of saliva from the mouth. The pillars of the fauces and soft palate were greatly swollen and were of a deep purplish colour; the left tonsil was also swollen and injected. The right tonsil was occupied by a large abscess, which reached beyond the mid-line of the faucial canal and touched the left tonsil, the soft palate and pillars of the fauces being pushed downwards and forwards on this side. The uvula was elongated and adherent to the right tonsil. I at once returned to my quarters for a lancet to open the abscess; but I had scarcely arrived when the patient's son came hurriedly and told me that about five minutes after I had left his mother she had, whilst lying back in her hammock, suddenly raised herself, making a loud gurgling, choking noise, and then had fallen back dead. On returning I found this to be the case. I at once performed tracheotomy and had recourse to artificial respiration, but without effect. On post-mortem examination I found the right tonsil occupied by a large abscess cavity containing about one drachm of very thick, viscid, offensive pus. The abscess had ruptured and discharged the greater part of its contents into the larynx, which was almost filled with the same thick offensive pus.

The Cayo, British Honduras.

CHLOROBROM IN SEA-SICKNESS.

BY A. NAPIER LEDINGHAM, M.B., C.M., F.F.P. GLAS., D.P.H. ENG.,
SURGEON-SUPERINTENDENT, QUEENSLAND GOVERNMENT EMIGRATION SERVICE.

AFTER an extended trial of chlorobrom in marine practice where the patients were under observation for some months I have no hesitation in pronouncing it the most satisfactory remedy yet produced for the treatment of sea-sickness. In those cases particularly where the patients, though not suddenly and violently sick, were in a state of chronic misery

with headache, nausea, great depression, sleeplessness and no appetite (a condition frequently dangerous in delicate people undergoing a long voyage) I have found chlorobrom properly administered most valuable; as a rule, the nervous symptoms disappear and the patients never fail to gain refreshing sleep and generally make a rapid recovery. Its ease of administration, safety, and complete absence of objectionable after-symptoms are points of great importance. I have also found the solution exceedingly useful in many cases of insomnia and nervous derangements.

R.M.S. *Tamar.*

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

LONDON HOSPITAL.

A CASE OF NERVE TRANSPLANTATION; REMARKS.

(Under the care of Mr. MANSELL MOULLIN.)

VARIOUS operations have been performed with the object of restoring the continuity of nerves in cases where the amount of nerve-tissue when lost through injury or removed by operation for tumour has been so great that the separated ends cannot be otherwise brought together by stretching. It has been suggested that the lower end should be grafted on some healthy neighbouring nerve or that section of the ends should be performed in such a manner that a part should be cut and turned down to meet a similar piece from below. The recorded cases in which the gap has been restored by the transplantation of a piece of human nerve or a portion of nerve from an animal are few and, as Mr. Moullin remarks, it is difficult to ascertain the results of such operations. Tillemans[1] transplanted the sciatic nerves from a rabbit in a case where the nerves (median and ulnar) were separated by an interval of 4½ centimetres and the patient recovered. Kaufman[2] transplanted a portion of the sciatic nerve of a dog in a case where the musculo-spinal nerve had been injured during an operation for necrosis of the humerus, the result is, however, not known. In a case where the median nerve had been divided above the elbow, Robson[3] inserted two inches of the spinal cord of a rabbit; in six months the muscular power was recovering and the sensation good, whereas there was still anæsthesia over the region supplied by the ulnar nerve, also involved in the injury, which was sutured at the same time. Atkinson,[3] in a case of lacerated ulnar nerve, removed the sciatic nerves from a rabbit and placed them side by side between the ends; the separation was two inches. Although sloughing and suppuration in the wound—a lacerated one—followed, the result was satisfactory. Robson,[3] in another case, where a tumour of the median at the wrist had involved removal of part of the nerve, transplanted a piece of human posterior tibial nerve into the interval and obtained a cure. Ward,[3] after removal of a tumour involving the median nerve above the elbow, inserted two inches and a half of human median nerve in the gap, and the patient regained some sensation and a fair degree of strength. It is possible that the tonic contraction of the triceps in this case assisted in causing absorption of the transplanted nerve. We are of opinion that this operation is preferable to the procedure of Bergman, who resected a portion of the humerus in order to allow of the apposition of nerve ends, though there may be cases in which the latter course is indicated.

A slightly built man, twenty-eight years of age, a jeweller by trade, slipped down on May 24th, 1889, and was dragged along by a tramcar, sustaining a compound fracture of the left humerus at the junction of the middle and lower thirds and a simple fracture about the middle of the radius. The muscles around the humerus were very badly torn, the triceps being almost severed, but the bone was not comminuted. The wound was thoroughly cleansed and the arm put up on an angular splint. There was no rise of temperature, but the injury, owing probably to the amount of bruising, was very slowly repaired. On July 15th the patient was allowed to get up with his arm in a sling; the radius had united and the wounds were healed, but the two ends of the humerus were quite separate from each other and there was free movement between them. Two and a half years after the accident the patient was readmitted with his arm in practically the same condition, the lower fragment lying in front of the upper one and rubbing against it. On Nov. 10th, 1891, an incision about two inches long was made over the seat of the fracture and the ends of the bone were exposed. They were found to be smooth and rounded, without any bond of union. Each was pushed out of the wound in turn, the periosteum was stripped back and the ends were squared and drilled. The musculo-spiral nerve was not seen. A single wire suture was passed through both, the dressings were applied and the arm was bandaged and placed upon a splint. Very little reaction followed, the temperature never rising to 100° F. The wound was dressed once in order to remove the drainage-tube and then was left for a fortnight. At the end of that time it was sound; the arm was enclosed in plaster-of-Paris and the patient allowed to get up. The casing was removed on Jan. 8th, 1892. Union was good. There was some limitation in the movements of the elbow and wrist, for which massage was prescribed. Four weeks after leaving the hospital and three months after the operation he began to notice some loss of power in the extensors of the wrist and fingers. This grew worse, so rapidly that by the middle of March the wrist-drop was complete. There was a considerable amount of callus thrown out and as it was thought that the paralysis might be due to the nerve having been included an exploratory incision was made in the hope of cutting it out, but it was evident almost at the first glance that nothing short of breaking down the union again would be of any avail, and the wound was closed and the patient discharged in order to recruit in the country. He was readmitted on April 22nd. The only change was for the worse; the grasp of the left hand was feebler than it was a fortnight before; the extensors were completely paralysed and sensation was so greatly impaired over the region supplied by the radial nerve as to be almost lost. The condition was explained to the patient; he was told there was little chance of improvement if things were left to themselves and that the best hope lay in the separation of the imprisoned part and the transplantation of another nerve into the gap, and he was asked whether, as it would in all probability be some considerable time before a suitable opportunity for obtaining a human nerve presented itself, he would have any objection to one from an animal being used instead. He agreed at once without hesitation. The operation was performed on May 3rd. Dr. Dawson, Demonstrator of Physiology at the London Hospital, procured a young retriever, chloroformed it to death, dissected out the two sciatic nerves, placed them in warm sterilised salt solution and brought them over to the hospital. Meanwhile, the patient having been placed under an anæsthetic, Mr. Moullin had exposed the nerve above and below. In the former situation there was no difficulty, but in the latter it was much bound down by cicatricial adhesions and required careful dissection. The nerve was then cut across, above and below; a tunnel was made under the triceps between the two incisions and one of the sciatic nerves that had been in the salt solution for about fifteen minutes was drawn through and sutured to each end with three catgut threads. The interval between the two ends was a little over two inches. The wounds were dressed in the usual way and the arm was placed upon a splint. This part of the case may be dismissed at once. Both wounds healed by first intention, with the exception of a minute and superficial point on the lower. On the day of the operation the condition of sensibility was as follows: At the root of the thumb there was an area of almost complete anæsthesia extending on to the back of the hand; on the back of the thumb the skin was a little more sensitive; on the back of the two first fingers the scratch of the point of a pin could be felt, but not a touch with its head. On May 6th, three days afterwards, a distinct hyperæsthetic area was noted over the proximal phalanges of the index and middle fingers; on the 8th this had disappeared and so far as the fingers were concerned the sense of touch was almost normal—the patient could feel and localise the contact of a wisp of wool. The dull area on the back of the hand remained almost the same for

[1] Berliner Klinische Wochenschrift, June, 1888.
[2] Revue des Sciences Médicales, 1884, p. 305.
[3] Brit. Med. Jour., September 1891.

eight days and then began to contract from the circumference inwards, until by May 23rd it was practically limited to a small patch the size of a shilling situated at the metacarpo-phalangeal joint of the index-finger. This persisted for some time longer and then disappeared, but though the sensitiveness of the skin over the whole area of distribution of the nerve appeared to have improved since the operation it nowhere became perfect nor has it done so yet. Galvanism was commenced on May 20th and the patient was discharged on May 31st. The muscles reacted to strong faradaic currents and were thought to be slightly firmer to the touch, but in spite of the treatment being continued for some months voluntary power was not regained and the wasting eventually became extreme.

Remarks by Mr. MOULLIN.—Instances of nerve transplantation from animals to man have been recorded on several occasions, with results that it is very difficult to interpret owing to the incomplete character of the published reports. The above case can only be regarded as a failure. Union took place by first intention, and the implanted nerve was simply absorbed (as appears to be the case with most animal tissues when transplanted in this way) before it could act as a guide and conduct the new axis cylinders across the gap. As so frequently happens when a nerve is divided, sensibility was never absolutely lost. The rapid improvement which took place after the operation and which began almost at once was probably due to the increased attention the patient paid and to the experience he had gained as to what was wanted of him. The gradual contraction of the anæsthetic area, on the other hand, can only have been caused by the vicarious activity of other nerves, those especially which enter into such free anastomosis with the terminal filaments of the radial nerve. Dr. Howell and Dr. Huber have given in the *Journal of Physiology* an excellent account of the many fallacies that attend the restoration of the function of nerves after primary and secondary suture; and at any rate in the case of transplantation into the course of a mixed nerve it seems advisable that the test of restored sensibility should be dropped altogether and only those cases considered successful in which the motor points of the separate muscles have been systematically examined electrically.

TIVERTON INFIRMARY.

GUNSHOT WOUND OF THE HEAD WITH LACERATION OF THE BRAIN; HERNIA CEREBRI; RECOVERY.

(Under the care of Mr. CULLIN.)

CASES of gunshot wound of the skull are infrequent in civil surgery, and the following case presents some unusual characters. The patient was injured by the discharge at a distance so close to the muzzle of the gun that the shot had not time to scatter, and acted like a bullet, carrying away the tissues with which it came in contact, only over a wider surface. The nature of the resulting wound was such that the opening in the skull could not be closed by the scalp tissues available, and thus one great preventive of hernia cerebri was wanting, the elastic resistance of the scalp. Probably in consequence of this the hernia cerebri developed on the sixth day, a rather early date. Professor Nancrede gives the average time for the development of hernia cerebri after wound of the brain as from the fifth to the seventeenth day, whilst it has appeared within the first twenty-four hours and as late as the sixty-eighth day. Of eighty cases which he had collected from various sources, only twenty-five ended favourably. When the hernia has developed there is a tendency at the present day to be satisfied with strict antiseptic cleanliness, and when it has become more chronic, with the employment of pressure, as in this instance. In some cases, however, removal of the tumour has appeared to be of advantage, and there are several well-authenticated cases of recovery. Quesnay's patient recovered after he had himself pulled off the protrusion, in others removal has been followed by rapid recurrence and ultimately death from exhaustion or coma. Dry astringent powders have been recommended, some surgeons have employed the actual cautery, others again caustic potash with the view of destroying the protrusion. We have recorded cases in which the protrusion has been very obstinate, lasting for months, but in which recovery ultimately ensued. As a rule heroic treatment in hernia cerebri is to be deprecated. For the notes of this case we are indebted to Mr. G. Michelmore, house-surgeon.

A boy aged fifteen was admitted into the Tiverton Infirmary on Dec. 19th, 1892, having received a gunshot wound of the head whilst out with a shooting party. On examination he was found to be in a semi-conscious condition, pale, cold and collapsed, with dilated pupils and a slow, weak pulse, but without symptoms of paralysis. Portions of the scalp covering the upper and outer surfaces of the occipital bone had been torn away by the shot, leaving a large surface of bone bare and denuded of its periosteum. A little to the left of the occipital protuberance and just above the superior curved line there was a comminuted and depressed fracture which had caused laceration of the brain, and around its margins brain-matter was escaping, whilst from the outer edge of this fracture ran a fissured fracture involving a small portion of the occipital bone and outer surface of the left parietal bone; further, just above its upper margin, there was a small circular aperture, the button of bone corresponding to which had been driven inwards, and from this opening also brain matter was escaping. The wound was well irrigated with warm carbolic lotion (1 in 40) and the depressed portions of bone were removed without much difficulty; but there was a further escape of brain matter, and an irregular opening over an inch in length and about one inch in breadth was felt in the occipital bone. Iodoform was dusted over the wound, strips of partially detached scalp were replaced in position, and a dry dressing of sal-alembroth gauze and wool was applied and ice was kept to the head.

The boy was now completely unconscious, and his condition was such that it was thought he would not last many hours; but during the night he revived and was able to take a little nourishment, though he was very drowsy and could only be roused with difficulty. The urine had to be drawn off with the catheter, which was the only time its use was required during the whole progress of the case. The temperature was 102·4° and was the highest recorded; pulse 70; respiration 24. For two days after admission the boy was in a semi-comatose state and was continually vomiting, but appeared to suffer little or no pain. The wound was dressed on the third day and there was a good deal of discharge which contained particles of brain matter, and two small pieces of bone came away. On the sixth day a hernia cerebri about the size of a Tangerine orange and consisting partly of brain matter and partly of inflammatory products was protruding from the aperture in the skull. About this period also the boy developed a very severe attack of ulcerative stomatitis, which spread to the back of the throat and involved the right Eustachian tube, causing perforation of the membrana tympani, followed by otorrhœa and complete deafness on the right side. The further progress of the case was excellent. The portions of scalp which had not been completely torn away and were replaced did not slough, but still a considerable surface of bone was left exposed and this was gradually covered in by granulations, with the exception of a piece about the size of half-a-crown, which became necrosed. The hernia cerebri subsided under treatment by gentle pressure and the opening in the skull was skinned over by a thin membrane. The boy's mental condition was not affected and he was discharged from the infirmary on March 26th, 1893, and afterwards attended as an out-patient.

Remarks by Mr. MICHELMORE.—This case is of interest as showing what a serious head injury with grave lesion of the brain may be recovered from in a young and healthy subject with favourable surroundings, good nursing and antiseptic precautions. I may mention that I was informed by competent observers that the distance between the boy and the person by whom the gun was discharged was only about six paces.

A NEW DAY NURSERY AT FOUNTAINBRIDGE.—Last week Dr. Littlejohn opened the nursery which has been established by the Edinburgh Day Nurseries Association. For the small sum of 3*d.* a child can be cared for and fed for a day, a reduction of 1*d.* being made for two children of the same family. The rooms, which are under the care of a matron and nurse, are three in number, and have been cleaned and furnished at a cost of £25. Dr. Littlejohn, in opening the rooms, said that early in his official life the mortality amongst children under five years of age was 200 per 1000. As a means of diminishing that mortality amongst infants he hailed the establishment of such *crèches* as this, where the children of widowers or of women who had to go out to earn their daily bread would be well cared for at an amount per day which was most moderate.

Medical Societies.

HARVEIAN SOCIETY.

Exhibition of Cases.

AT the clinical evening on Thursday, May 18th, Dr. ROBERT MAGUIRE, Vice-President, in the chair, the following cases were shown: Congenital Hypertrophy of both Feet, by Mr. D'ARCY POWER. The patient, a girl three and a quarter years of age, presented an enormous hypertrophy of both feet, which he hesitated to term "congenital acromegaly," "simple gigantism" or "pulmonary osteo-arthropathy." The anterior portions of both feet were enormously increased in size, the dorsa of the feet were puffy, but there was no apparent obstruction of the lymphatics. The toes were widely separated from each other, so that the whole foot resembled that of the dodo. The child since she was three weeks old had been under the care of Mr. Power and the late Mr. Walter Pye. The feet appeared to be getting relatively smaller as the child increased in age.—Imperforate Anus operated on by a Para-coccygeal Incision, by Mr. KEETLEY. This case illustrated a mode of operating for congenitally imperforate anus now practised on two cases by Mr. Keetley. The child being laid supine, an incision was made along the left border of the coccyx and lower part of the sacrum till the coccygeus muscle was exposed. All vessels were scrupulously secured and tied with fine silk or catgut. The coccygeus was now incised and the end of the intestine, of a bluish colour, appeared beneath it. This was opened as low down as possible by a small puncture, and afterwards dilated; meconium escaped and was afterwards washed out with warm water. All hæmorrhage having been stopped by ligatures, the infant was returned to its mother. Weekly dilatation by bougies was afterwards practised. If an anal cul-de-sac existed, it might be slit up, as in the case exhibited, or the sphincter ani left undivided to be made useful by a future plastic operation.—Gouty (?) Induration of Penis, also by Mr. KEETLEY. The patient was thirty-four years of age. Ten months ago a mass of suppurating glands was excised, which had followed an attack of gonorrhœa. Healing took place quickly and the patient remained apparently well until six months ago, when he noticed that erection did not affect the penis quite so far forward as the glans; in front of that point it failed. Three months ago he discovered a hardness at this level. This induration was still present and affected the corpora cavernosa, but not the corpus spongiosum. It was very distinct and resembled the hardness occasionally found in older patients with undoubted gout. The patient had begun to take iodide of potassium, thirty grains daily, in milk.—Plumbism in Various Forms, by Dr. ROBERT MAGUIRE. The patient, a painter, had suffered several times from lead colic. Lately he had had dropped wrist, which was now nearly well; he was anæmic, had had attacks of gout, tophi in the ears, signs of granular kidney, albuminuria, high tension pulse and cardiac hypertrophy, albuminuric degeneration of the retina and slight optic neuritis; all the symptoms were due to lead poisoning, but there was no blue line on the gums because the patient had kept his teeth scrupulously clean.—Congenital Heart Disease (Pulmonary Stenosis), by Dr. W. ESSEX WYNTER. The patient, was eight years old. The medical man who was present at the boy's birth stated that he had a weak heart, but hoped that he might "grow out of it." The boy suffered from convulsions whilst teething and now had occasional attacks of nausea and faintness, but had not actually suffered from syncope. He played about freely and did not appear to be readily out of breath. The mother died of heart disease when aged thirty-two years. There was a loud systolic murmur at the base of the heart conducted towards the left side.—Myxœdema (in an early stage), also by Dr. W. ESSEX WYNTER. The patient had been ailing for two years. She was thirty-nine years of age. She complained especially of failing memory and increasing incapacity for discharging the ordinary duties of life, loss of hair and trembling and "giving way" of the knees. There was some rather diffused swelling in the region of the thyroid gland, with tenderness, of about eighteen months' standing.—Movable Kidney, by Dr. BOXALL. The patient, thirty-three years old, was one of twins. She had had three children, the last four years since. Three months ago she was seized with sudden sharp pain in the right lumbar region whilst walking and had in consequence to sit down in the street. The acute pain passed off in a few minutes, but since that time she had suffered from occasional aching pain in the same region after walking and standing, or in fact, whenever she became tired. She had noticed no lump there. On deep inspiration the right kidney descended completely below the costal margin and could there be fixed by the fingers; the left did not descend so low. This condition, though but seldom recognised, was by no means infrequent in gynæcological practice; indeed, it was often found in cases of uterine and ovarian displacements, being usually associated with general want of tone and laxity of tissue—an important element in the causation of both.—Post-pharyngeal Gumma, by Dr. SCANES SPICER. The patient, aged forty-nine, complained of difficulty in swallowing. Examination showed a healed perforation on the posterior wall of the pharynx and beneath it there was a yellowish sloughy mass. There was considerable swelling of the right posterior pillar and adjacent parts. Healing had been rapid under large doses of iodide of potassium.—Mr. ERNEST LANE showed two cases of Syphilitic Ulceration of the Tongue. The position of the lesions was on the posterior fourth of the organ, and consequently a close examination of them was not an easy matter. Both patients were females, and in neither of them was the history of syphilis very clear. Mr. Lane remarked that it was unusual to find the posterior part of the tongue attacked whilst the anterior portion showed no traces of the disease.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

Adjourned Discussion on Cholera.

THE adjourned discussion on Cholera took place on June 5th, Mr. SHIRLEY F. MURPHY, President, in the chair.—Dr. ARMSTRONG, referring to the *Shipping Gazette* of Feb. 18th for a full report of the conference of port medical officers, expressed the great regret felt by all at the refusal of the Government to make any grant from the Imperial Treasury in aid of the extraordinary expenses incurred by the sanitary authorities, especially of the smaller ports, on account of what was a truly national benefit. Medical inspection was not, he said, carried out at present at Newcastle as it was in London, but would be in the event of a recrudescence of the cholera on the Continent. In rough weather ships were boarded just within the bar, at other times at sea. Hospital provision he considered to be an unknown quantity, but he thought that port cases should be treated in floating hospitals and town cases in shore hospitals, and he criticised the regulations of the American marine.—Dr. COLLINGRIDGE maintained that of all diseases cholera was the least likely to be kept out by existing quarantine regulations, since there were no recognisable prodromata. There should be permanent precautions against all communicable diseases, special provisions being enforced only in the presence of an epidemic. Intermittent scares should be avoided and excessive precautions would be evaded, as by the shipment of dangerous merchandise from open ports or their retention in the infected place until the removal of the prohibition. The American definition of an "infected port" was defective in not defining when it ceased to be one—e.g., if the second case which made it such happened to be the last. It was only in this country that foreigners were admitted with no proof of their identity, but it would be unjust to tax Dover or Folkestone in respect of persons who had been but an hour at sea.—Dr. PARKER remarked in reference to tramps that he had failed during the recent prevalence of small-pox to obtain permission to inspect common lodging-houses or to induce the police to do so.—Mr. HARRIS said that all ships should be medically inspected at all times. He did not see that port hospitals could or should always be on shore, and he could testify to the good done by the notification of cases by the medical officers of ports to other towns.—Dr. HERON, replying to the objections raised to his suggestion as to the erection of temporary cholera hospitals in parks &c. and the compulsory removal of patients, maintained that the liberty of the individual must give way to the public welfare, that persons dangerous to the community should be detained, and that the treatment of cholera in the dwellings of the poor was inadmissible.—Dr. WILLOUGHBY quoted his experience in 1866 as to the advantages of hospital over home treatment of cholera. He pointed out the necessity, too often forgotten, of calculating the percentage of disinfectants on the volume of the fluids to be treated, not of that added, and ridiculed the so-called disinfection of sewers. He referred to a further back-door for the introduction of cholera—viz., places such as Torquay, Kingsbridge &c.—which could scarcely be called ports, but to which

French fishing-boats resorted during stress of weather and otherwise. Purity of our own water-supply would be far more effective than restrictions on intercourse and trade, and even than other sanitary improvements, as was seen in the immunity enjoyed by Rome and Seville since each had obtained unimpeachable supplies.—Mr. WOODFORDE confirmed the apprehension expressed by Dr. Thresh as to the unpreparedness of our villages and the necessity for effecting improvements especially in the water-supplies. Our greatest safeguard would, he believed, be found in the maintenance of the purity of our water-supplies and in the provision of such in rural districts and elsewhere if wanted, quoting the examples of Rome and Seville, which, in spite of every conceivable insanitary condition, had enjoyed absolute immunity from cholera since the introduction of unimpeachable water-supplies. After some remarks from Mr. Woodforde in reference to the sanitary conditions of rural districts the discussion was closed by the President.

Reviews and Notices of Books.

Zoology of the Invertebrata. A Text-book for Students. By ARTHUR E. SHIPLEY, Fellow and Assistant Tutor of Christ's College, London. London and Edinburgh: Adam and Charles Black. Pp. 458, with 263 Illustrations. 1893.

IN every department of natural science new works giving the results of recent investigations are necessary. In chemistry, in botany, in physiology, so rapid is the advance of science, so numerous are the facts that are placed on record by young and energetic workers, that an author has no sooner completed his work than he feels that a new edition is required. But new facts often materially alter and modify the views that have been previously entertained and expressed, and the weak points of many otherwise excellent treatises after they have undergone two or three revisions are due to the difficulty that is experienced in intercalating the recent knowledge of the day with the old statements of facts—in other words, in putting "new wine into old bottles." The writer of a new treatise is free from this difficulty. Recent knowledge is at his finger-ends if he be a good teacher and an original worker, and he has only to make a judicious selection to write a good book *currente calamo*. Mr. Arthur Shipley is to be congratulated on the excellent treatise he has produced, which he modestly states is only intended for, and may be useful to, those students in the upper forms of schools and at the universities who are already acquainted with the elementary facts of animal biology. He has judiciously avoided the full description of certain types which are dealt with in the elementary text-books of Huxley and Martin and of Marshall and Hurst; but with this reservation he has endeavoured to describe some one example of each of the larger groups and then to give a short account of the most interesting modifications presented by other members of the group. The classification adopted, as well as the order in which the Invertebrata are considered, is shown in the following list, which forms the headings of successive chapters: Protozoa, Metazoa, including Porifora, Cœlenterata, Cœlomata, Platyhelminthes, Nemertea, Nematoda, Hirudinea, Chætopoda, Gephyrea, Brachiopoda, Polyzoa, Mollusca, Echinodermata, Crustacea, Prototracheata, Myriapoda, Insecta, Arachnida and Chordata. The description of these several groups is briefly but accurately given, and we may select that of Gephyrea as an example of the mode in which Mr. Shipley deals with his subject. They are divided into the Achæta—represented by Phymosoma, Sipunculus and Phascolion—and Chætifera, represented by Bonellia, Echiurus and Thalassenia. He defines the Gephyrea as subcylindrical marine animals with very slight indications of segmentation. "The anterior part of the body is either retractile, forming an introvert, or it bears an extensile prostomium—setæ or chitinoid hooks usually present. The nervous system consists of a circum-œsophageal ring and a ventral non-ganglionated cord. No special respiratory or locomotor organs exist. A closed vascular system is present and the cœlom is spacious. Nephridea are present and serve, as a rule, as ducts for the exit of the reproductive cells as well as functioning as excretory organs." The distinguishing characters of the Achæta and the Chætifera are then given, and three woodcuts show the principal points in the anatomy of the class by giving those of Phymosoma, one of the largest genera belonging to it. A very good chapter is devoted to the Chordata, which are divided into Hemichordata, represented by Balanoglossus, Cephalodiscus and Rhabdopleura; Urochordata or Tunicata, represented by Appendicularia, Doliolum and Pyrosoma; and Cephalochordata, represented by Amphioxus, which lead up to the Vertebrata. We must compliment Mr. Shipley on the excellence of the illustrations, which are not only numerous but exceptionally clear and good. His book is one of the best works that have recently been published on this subject.

The English Baby in India and how to Rear it. By Mrs. HOWARD KINGSCOTE. London: J. & A. Churchill. 1893.

MANY readers of the title of this book will probably recall the fresh and delightful sketches of the late George Aberigh-Mackay of Anglo-Indian life, and particularly that entitled "Baby in Partibus," in which the life—as ephemeral as one of its own broken toys—and the death of the youngest of any class of the great exile community are sadly outlined by a few light suggestive strokes from a sympathetic hand. Be that as it may, the baby in India has generally a bad time of it, and its rearing is difficult and beset with pitfalls. We agree with Surgeon-Captain Firth that if Mrs. Howard Kingscote's little book is used and regarded strictly as an aid in the absence of a medical attendant rather than as a substitute for him it may be expected to be of very considerable value, especially to the wives of the non-commissioned officers and men of the British army and to the humbler officials of both the civil and military services. It contains much excellent and judicious advice on the hygiene of children and on the management of children's ailments written in a simple practical way, and we can recommend it as likely to prove very useful for the purpose for which it was designed.

Practical Observations on the Harrogate Mineral Waters and Chronic Diseases, with Cases. By ANDREW SCOTT MYRTLE, M.D., and JAMES AITKEN MYRTLE, M.D. Fourth Edition, with additions. Harrogate: Robert Ackrill. 1893.

THIS edition of a well-known work is to a considerable extent rewritten, and the portions relating to the application of the springs and baths to disease have been enlarged. "At present," say the writers, "the special baths (at Harrogate)—needle, douche, spray, vapour, medicated and what is known as the Aix douche—are administered to perfection by skilled attendants, and when the new suite of baths about to be erected is completed Harrogate will be, as far as its baths are concerned, unsurpassed, just as it is now unequalled as regards the number, variety and strength of its waters." We have formerly expressed our favourable opinion of this work, and that opinion we freely accord to the present edition. The authors are enthusiastic with regard to the therapeutic virtues of the Harrogate waters; but, after making some deductions from the general *couleur de rose* tone adopted, we can conscientiously commend their volume to the profession. All the usual information regarding the character of the waters, analyses &c. is carefully given and their therapeutic applications are worked out much more fully and accurately than is generally the case in works of this kind. The Harrogate waters may be divided into four classes: the strong sulphurous, the mild sulphurous the

saline chalybeate and the pure chalybeate. They are rich in amount and variety of mineral ingredients, but they are poor in carbonic acid gas and their temperature is low (40° to 48° F.) Hence they lack the palatability which is so large a factor in the popularity of some of the Continental waters, but they can be rendered available for all bathing purposes. The list of affections in the treatment of which the authors claim efficacy for the Harrogate waters is a long one and includes eczema, psoriasis, urticaria, acne, syphilitic eruptions, dyspepsia, hepatic derangements, gout, rheumatism, neuralgia, neurasthenia &c. These maladies are amongst the most obstinate and troublesome met with in practice, and in dealing with them the practitioner would do well to recollect that he has a useful therapeutic agent in baths and mineral waters.

Bibliothek der gesammten Medicinischen Wissenschaften für Praktische Aerzte und Specialärzte. Herausgegeben von Hofrath Professor Dr. A. DRASCHE in Wien. Wien: Max Merlin. (Encyclopædia of the Allied Medical Sciences for Practitioners and Specialists. Edited by Privy Councillor Professor Dr. A. DRASCHE of Vienna. Vienna: Max Merlin.)

THIS work, of which the first half of Part I. has just appeared, is intended to supply the practitioner with an account—fully up to date—of all diseases and other subjects which he is likely to require, in encyclopædic form. The plan adopted is to publish two parts each month dealing with different classes of subjects. The portion which lies before us deals exclusively with Medicine and Children's Diseases and contains articles, in some cases several pages in length, under the following headings: Abdominaltyphus, Abdominaltyphus im Kindesalter, Accessoriuslähmung, Addison'sche Krankheit, Agrypnie, Albuminurie, Ammenwahl, Amoebenteritis, Ammoniaemie and Anaemie (unfinished). (Typhoid Fever, Typhoid Fever in Children, Paralysis of the Accessorius Muscle, Addison's Disease, Insomnia, Albuminuria, the Choice of Nurses, Amœboid Enteritis, Ammoniæmia and Anæmia.) The other half of this part will be devoted to Midwifery and Gynæcology, whilst Part II. is to treat of (1) Pharmacology and Toxicology and (2) Chemistry. The complete work is expected to fill eight or ten volumes and will doubtless form an admirable medical encyclopædia when it is finished.

A Concise History of the Rotunda Lying-in Hospital, Dublin. By S. F. ADAIR. Dublin: Browne and Nolan. 1892.

THIS is a short history of the institution from its foundation to the present time—a period of 145 years—by one of the governors and guardians. It was thought that an account of the hospital put in a concise form would assist in bringing its claims to support before the public and enable the authorities to obtain much needed funds. Since the foundation of the hospital in 1757 the number of births in the wards has been 231,702, and the work done by the charity is increasing. The book contains copies of the charters granted to the hospital, and plans and illustrations of the various buildings of which it is composed. Whether we regard this hospital as an institution "for preserving life and relieving misery," or in its world-wide character as a great teaching centre, we believe that it would be difficult to find another institution in Dublin more deserving of public support.

LIBRARY TABLE.

Ueber die Beziehungen zwischen Erkrankungen der Nase und des Auges. Von Dr. LIEVEN of Aachen. (On the Relations between Diseases of the Nose and of the Eye. By Dr. LIEVEN of Aachen.)—This paper is a reprint from the *Deutsche Medicinische Wochenschrift* and deals with the relation of nasal disease to diseases of the eye. After adverting to the bibliography of the subject the author relates instances in which treatment of the nasal disease (1) cured the eye disease and (2) ameliorated it; and adduces cases in which the diagnosis of an etiological connexion between disease of the two organs could be determined, but on which subsequent observation was not complete.

La Vue: son Hygiène, ses Maladies. Par Dr. R. JOCQS, Médecin-Oculiste de l'Hôpital International de Paris. Pp. 207. Paris: Société d'Éditions Scientifiques. 1893.—This *brochure* is a student's text-book, giving an elementary account of the chief conditions of ophthalmic disease. It is correct enough so far as it goes, but we should expect a fourth year's student who has attended for three months in the ophthalmic wards of a large hospital to know all that it contains and more.

The Journal of Physiology. Edited by MICHAEL FOSTER. Vol. XIV., No. 1.—This part contains: 1. A Physiological, Histological, and Clinical Study of the Degeneration and Regeneration in Peripheral Nerve Fibres after severance of their Connexions with the Nerve Centres (part iii.), by W. H. Howell and G. C. Huber. 2. On the Variations experimentally produced in the Specific Gravity of the Blood, by C. S. Sherrington and S. Monckton Copeman; with a plate. 3. Alterations in the Strength which occur during Fatiguing Voluntary Muscular Work, by W. P. Lombard; with three plates. 4. The Influence of Carbonic Acid dissolved in Saline Solutions on the Ventricle of the Frog's Heart, by S. Ringer.

THE INTERNATIONAL MEDICAL CONGRESS.

THE following letter has been received by Sir James Paget relative to the date of meeting of the International Congress at Rome:

"Genova, June 10th, 1893.

"DEAR SIR,—The rumours circulated by certain political journals may have given rise to the idea that the date of the meeting of the Congress may be altered. The President of the Committee of Organisation is happy to be able to assure you, and through you the several members of the English committee, that the date of inauguration is definitely fixed for Sept. 24th next. In giving you this assurance the executive takes the opportunity of soliciting the zealous support of yourself and your colleagues during the interval which exists prior to the opening of the Congress. Your coöperation is especially asked in the direction (vital to the success of the meeting) of obtaining contributions to the proceedings of the sections and of hastening the announcement of papers to be read. It is necessary that abstracts should be at once sent in, as the committee is on the point of publishing the definite programme of proceedings. The President is convinced that you, Sir, and your colleagues, reassured as to the certitude of the date of meeting, will do all in your power to aid the executive in gathering in the results of the prolonged period of preparation.

"E. MARAGLIANO, Secretary General."

THE ROYAL HOSPITAL, RICHMOND.—We have been asked to state that the sum already raised towards the £5000 required for the proposed additions to the above-mentioned hospital, including the "Princess May's Ward," amounts to £3630 odd. It will be remembered that the fact of a dinner being held a week or two ago formed the subject of a paragraph in THE LANCET of May 6th.

HOMES FOR INEBRIATES ASSOCIATION.—This association, of which Sir C. Cameron, M.P., is President, has issued its report for 1892-93, and the committee are able to give a satisfactory account of the Homes from a pecuniary point of view. The experience derived from the treatment of 305 cases treated at and discharged from the Dalrymple Home enables the committee to look forward with hope to the early prospect of effective legislative action on behalf of a class of persons greatly needing sympathy and help.

THE LANCET.

LONDON: SATURDAY, JUNE 24, 1893.

THE approaching contest for the vacant seats on the Council of the Royal College of Surgeons will be watched with great interest. By the retirement of Sir WILLIAM SAVORY and the decease of Mr. MARCUS BECK two absolute vacancies have been created, whilst Mr. N. C. MACNAMARA and Mr. OLIVER PEMBERTON, who are retiring according to rule after a full service of eight years, are coming forward for re-election. Both of these gentlemen have advanced with the times and have done good service on the Council, and should the Fellows prove favourable to their retention of office there will be no less than nine candidates contesting the two other vacant seats. In the order of seniority as Fellows these candidates stand thus: Mr. A. T. NORTON (1867), Mr. WM. ANDERSON (1869), Mr. DAVIES-COLLEY (1870), Mr. ASTLEY BLOXAM and Mr. HERBERT PAGE (1871), Mr. MACCARTHY and Mr. HENRY MORRIS (1873), Mr. W. H. BENNETT (1877), and Mr. MAYO ROBSON (1879). With the opinions and proclivities of many of the candidates we do not pretend to have an accurate acquaintance because the present fashion is to abstain from promulgating them and to trust to position, reputation and school connexion for support at the poll. Nevertheless, it may fairly be taken for granted that candidates already engaged or aspiring to be engaged as examiners at the College have a certain amount of sympathy with the existing *régime* under which they have risen or hope to rise to this coveted distinction. Mr. DAVIES-COLLEY, Mr. MACCARTHY and Mr. W. H. BENNETT come certainly into this category, and the same may be predicated probably with equal truth of Mr. HERBERT PAGE and Mr. WILLIAM ANDERSON. The surgical abilities of the candidates are unimpeachable and all might fairly aspire to the Council on their own merits; but the official connexion of some with the College and the aspirations of others constitute from our point of view a serious disqualification at the present time. Mr. ASTLEY BLOXAM has probably appeared in the list rather because Charing-cross Hospital has no representative and time is on the wing than with any expectation of proving successful at the coming election. With regard to the remaining candidates who seek election as distinct from re-election—Mr. A. T. NORTON, Mr. HENRY MORRIS and Mr. MAYO ROBSON all hold liberal and progressive opinions. Mr. A. T. NORTON and Mr. MAYO ROBSON are coming forward, in conjunction with Mr. N. C. MACNAMARA, at the invitation of the Association of Fellows. Mr. HENRY MORRIS holds very similar views; but a few years ago he retired from the Association and seems, if we are correctly informed, to have refrained from rejoining because he thinks differently from the majority of the committee of the Association in regard to the mode of election of the President. Whilst the majority of the committee favour the election of the President by the Fellows of the College, as is done at the Royal College of Physicians, Mr. MORRIS considers that the President should continue to be elected by the Council. The mode of election of the President, however, is really an open question, the cardinal contention of the Association consisting, we believe, in the bestowal on the Fellows of a consultative voice in the administration of collegiate affairs; to this policy we understand that Mr. MORRIS adheres. It is not necessary to say more about Mr. MACNAMARA than that he has consistently in the Council upheld the principles which he professed before he was elected to that body and that he may be thoroughly relied on in the future. Mr. PEMBERTON has likewise proved himself to be a useful member of the Council and holds liberal views. Mr. NORTON is a member of the committee of the Association of Fellows and has the advantage of being the senior Fellow on the list. He is an able surgeon and teacher and would be in every way a desirable addition to the Council. Mr. MAYO ROBSON has earned a well-deserved reputation as an operating surgeon and would strengthen the Council by bringing to bear upon its proceedings an intelligence unfettered by tradition and untrammelled by the *genius loci*. Greatly as the experience and eloquence of Sir WILLIAM SAVORY will be missed at the Council Board, his retirement will conduce to the more rapid development and evolution of the new order of ideas, as he alone amongst the conservative members of the Council possessed the authority, prestige, versatility and eloquence which could unite the forces opposed to advancement.

The coming election, therefore, presents the most favourable opportunity that has yet occurred for the election by the Fellows of candidates who are prepared to bring the Council and the Fellows into line and to establish relations between them in harmony with the needs of the College and with the spirit of the times. There is not a single surgeon amongst the official candidates who holds such a commanding professional position as would secure his election irrespectively of his political sympathies or by an overwhelming majority. The occasion is consequently one in which school connexion and personal friendship, if not wholly disregarded, may properly be subordinated to political convictions. We believe that the youngest Fellows are mostly reformers, and, if so, there should be sufficient voting power to carry into the Council representatives who may be relied upon to act after election in accordance with their known convictions and professions. In conclusion we may, perhaps, be permitted to express a hope that the successful candidates for the four vacant seats on the Council may be chosen from the following—viz, Mr. NORTON, Mr. MORRIS, Mr. MACNAMARA, Mr. PEMBERTON and Mr. MAYO ROBSON, whose names are written in order of their seniority as Fellows.

OWING, we imagine, to the long-continued delay in signing the Convention come to at the Dresden Conference, no account has been published in this country of the conclusions which were embodied in that Convention. The German Government, being amongst the earliest of the Governments to sign the Convention, have now issued in their official journal a summary account both of the circumstances which led to the Conference and also of the conclusions which were reached. The conclusions which the Conference arrived at are embodied in two Annexes.

Annexe 1 deals mainly with traffic both of persons and of

goods across the Continent of Europe and in seaports; and it should be noted that the conclusions generally do not so much lay down a definite and rigid series of rules as place a maximum limit beyond which nations are not to go in controlling international traffic whether by land or by sea. Thus, whilst something under each heading is obligatory, much is permissive only and may not be exceeded. In the first place, the contracting States bind themselves to keep other countries informed through diplomatic channels of cholera and of its progress in their respective countries. No district is to be considered as infected merely because of the occurrence of isolated cases. This we cannot but regard as opening up a source of danger, because it has been a constant practice to keep the occurrence of cholera secret until an actual outbreak, which could no longer be controlled, has taken place. A further resolution is to the effect that five days after the occurrence of the last fresh case any infected locality is to be considered as "immune." Restrictive measures are also only permissible as regards the given spot where cholera has occurred and are not to be universally applied to a whole country because some small centre is affected. Other resolutions deal with the export of merchandise and goods. The most important, perhaps, of these grants full liberty as regards international commerce to almost all articles except body linen, worn apparel and used bed linen; and rags which are packed in the manner customary in the wholesale trade, as also new factory waste and prepared wools, do not fall under the customary heading of "rags" and hence suffer no prohibition. There is likewise a good deal of limitation as to disinfection of travellers' luggage, this process being no longer compulsory except as regards articles which are suspected of actual infection by cholera discharges. So, also, the transport of goods, even though capable of conveying cholera infection, is not to be interfered with in their passage across one country into another provided they are suitably packed and are not opened. Land quarantine can no longer be applied to travellers. Only persons suffering from actual or suspected cholera can be hindered in their journey, but persons arriving from cholera-infected places have to undergo local supervision at their residential towns by sanitary officers for five days, dating from their departure from the infected spot.

Coming next to sea traffic, which is so important for the purposes of this country, very great advance in the direction of our English regulations has been attained; indeed, it is held by the German Government that sea quarantine has been entirely replaced by the system of medical inspection such as is already practised in Great Britain. Infected ports are practically ignored, the control of a ship depending solely upon the sanitary state of the persons on board and of the vessel itself. Ships are divided into three classes. Infected vessels are those which have cholera on board or have had a fresh case within seven days. The sick are to be landed and isolated, and it is added that, "if possible," the remaining persons are likewise to be landed and kept under supervision for five days. Measures of disinfection are also to be carried out. We imagine that the hesitation of the British Government lies mainly in the interpretation to be placed on those words "if possible" as applied to the detention and isolation of hitherto healthy persons. If the possibility in question has to do with compliance with or breach of existing regulations, then England could accept the conclusion because her cholera regulations would not render such detention possible. The next class of vessels are the suspected vessels—namely, those which have had cholera on board, but on which no fresh case has arisen within seven days. Compulsory measures are here limited to medical inspection, to such disinfection of linen and clothes as the medical officer of health may deem necessary, and to certain action with regard to drinking-water and to bilge-water. The third class of vessels are the "indemnes." They are such as have had no cholera on board either in the port of origin or during the voyage. These may, quite apart from their bills of health, at once enjoy freedom from all restriction, excepting only such medical inspection, disinfection and dealing with drinking- and bilge-water as may be deemed necessary; but any authority that chooses may, if they wish it, carry out a supervision of the persons who were on board for five days after their arrival, both in the case of suspected and clean vessels. The crew in either case may also be forbidden to go on shore unless in connexion with the service of the ship. Goods traffic is in the case of all these three classes of vessels not to be hindered. Even in the case of infected vessels cargoes may be discharged except in so far as they fall under the general regulations applicable to goods classed as "susceptible." There are also special provisions applicable to emigrant ships or ships deemed to be unhealthy.

Annexe 2 deals mainly with a matter affecting Russia and Roumania—namely, the traffic on the Lower Danube. The German *Reichsanzeiger* does not go into any details concerning this, because the amount of German shipping at the mouth of the Danube is an insignificant item. For England it is somewhat different, and therefore we read with satisfaction that the principles which have been laid down to govern this traffic have succeeded in solving a difficulty which last year gave rise to considerable conflict between the Russian and the Roumanian Governments. The complete success of this part of the work of the Conference will, it is stated, depend somewhat largely upon the consideration given to Roumania by the neighbouring States in carrying out the regulations. For this reason it will remain to be seen how far the conclusions applicable to the Danube traffic will in the end remove the difficulties which have been so needlessly harassing to local and general commerce passing through the Black Sea up the Soulina mouth of this international river.

IT is not to be wondered at that amongst the profession at large there is a good deal of quiet dissatisfaction with the state of medico-legal affairs in Scotland which we depicted last week, though the dissatisfaction has not resulted in a consensus of opinion as to any definite remedy. On some points, however, there can be no doubt or difficulty. For example, if post-mortem examinations are to be confined to cases in which crime is suspected they should never be made by a single medical man. In all necropsies made in public institutions, such as prisons, asylums or hospitals, the medical officer of the institution should certainly have the right to be present, if he so desires, even if he takes no part in the necropsy; and, of course, outside public institutions wherever the conduct of any medical

man can possibly be involved, he should have a similar right. We have heard of a good working rule adopted by a medical man to whom all cases in his district were referred, but where no second man was usually engaged. He always welcomed the local practitioner, on the understanding that the notes taken at the time as to the actual facts revealed by the dissection were to be signed by both, questions of opinion as to cause and effect being left open. But on other points the proper course is not quite so clear. It may be urged, for example, that just as a prisoner who is *de facto* a pauper is provided by the Crown with a legal defender in opposition to the Crown counsel, so he should be provided with a medical defender; that wherever the alleged perpetrator of a crime is known his agent should have the right to nominate a medical man to be present at the necropsy; and that where no such alleged perpetrator of a supposed crime has been found the same right of nomination should vest in the Poor-law Agents Society, it being to a Poor-law agent that the inquiries are committed on which a defence may be based. At first sight there is a good deal to be said for this course, but is there not also a good deal to be said against it? There is nothing which brings to the medical profession more disrepute than the spectacle of medical witnesses flatly contradicting each other in open court, and to follow the suggested plan would, we fear, be to reduce this contradiction to a system. Underlying the present dissatisfaction there is probably a suspicion that the medical men employed by the Crown may incline to favour the case for the prosecution, rather than that for the defence; and, further, that if they did not turn out to be good Crown witnesses—in other words, witnesses for the prosecution—they would not often be employed by the Crown authorities. Now we sincerely trust that there are no grounds whatever for this suspicion, and are quite certain that under proper arrangements there need be none. When a case comes before a court it does so, to a great extent, because the medical report given in connexion with the private preliminary inquiry has been such as to induce the Crown to prosecute. Therefore the mere fact that the case comes into court at all leads one to expect that the medical evidence will, in all probability, be unfavourable to the prisoner; but it must be recollected that—say, in large cities where the same medical men are always employed for post-mortem work—in 100 cases perhaps 50 or more have not been proceeded with at all, the reason being that the necropsy has resulted in the death being attributed to disease or suicide or other cause involving no criminal charge. It may happen, however, that the case is a "narrow" one, where the evidence is so balanced that the Crown, though not confident that any crime has been committed, yet in the public interest does not feel justified in refraining from bringing the suspected person into court. In these circumstances the counsel for the Crown, being naturally desirous to win his case, may sometimes be inclined to press his medical witness a little further than he would impartially care to go, though it is to the credit of the legal profession that in many instances the advocates depute show no such disposition. Is not the taking of "narrow" cases before the courts, however, an involuntary acknowledgment of the need for that publicity which is not afforded by the procurator fiscal's inquiry? It is felt by the Crown Office that though such a case will probably break down on trial, yet the suspicion is so great and the *prima-facie* evidence so strong that if the alleged criminal were not brought into court the public would suspect that crime was being hushed up and the law being brought into contempt. Would not this suspicion be removed by the open preliminary inquiry?

We venture to suggest that the difficulty as to possible partiality on the part of a Crown witness would be largely obviated if a proper system prevailed in the selection of medico-legal examiners for Crown cases. The appointment should, at least as regards one of the two witnesses who ought to be employed in every case, be in the hands of an authority whose *amour propre* could not in the least be wounded by the success or failure of any given prosecution. As it is the procurator fiscal who acts as the agent for the Crown and who collects the preliminary evidence, the Crown medical man should be entirely independent of him; but the sheriff principal is hardly at all involved and still less is the Secretary for Scotland, and our suggestion is that just as the procurator fiscal is appointed by these two, so should be the medical examiner. Indeed, it tends to lower the status of the profession that the medical appointment should so frequently rest with the local solicitor who happens to have been selected as procurator fiscal by the sheriff. In every respect the one should be the equal of the other in official position. And in all cases medical men employed by the Crown, whether regularly or only for a particular inquiry, should have it impressed upon them in the strongest possible manner that they are not called either as probable witnesses for a prosecution or as probable witnesses for a defence, but as entirely impartial referees devoting their best skill to the elucidation of the cause of death, and that this attitude is to be maintained by them when in the witness-box, so that even where the case is a "narrow" one they shall not be pressed to go one hair's breadth further than they feel that they legitimately can.

It is to be remembered that the prosecution may take place weeks or months after the necropsy has been made, so that, as regards the appearances of the cadaver, no medical evidence but that of the Crown witnesses is available; but the report of a post-mortem examination states not merely the actual facts as to the condition of the various organs, but also gives an opinion as to the cause of death based on these facts; and it not infrequently happens that when the case comes to court the defence is that whilst the facts cannot be overturned owing to the length of time that has elapsed, yet the inferences from the facts are open to dispute. A prominent instance of this sort occurred not long ago in Glasgow. Now if the medical advisers of the Crown were appointed in the manner we have just suggested we think it would tend to strengthen the public confidence in their absolute neutrality, both as to matter of fact and matter of opinion; but there is another point. The information collected by the local solicitor who acts for the Crown is sent on to headquarters for the opinion of the advocate depute. We are not aware whether the local medical report is similarly submitted to skilled medical revision. It certainly ought to be so submitted, and then if the post-mortem facts did not justify the opinion given as to the cause of death the Crown would be advised accordingly.

We have been careful to indicate that on some of the points now discussed we do not pretend to give an absolute

opinion. The system is surrounded with so much utterly unnecessary secrecy that the facts are difficult to ascertain, and when ascertained they are so complex that probably some aspects of them have escaped our notice; but so far our views are as follows: 1. Many medico-legal cases at present secretly investigated by the procurator fiscal should be subject to open inquiry in the presence of the sheriff. 2. The system of medical reports as a result of the external examination of dead bodies should be abolished and the number of necropsies should be correspondingly increased. 3. Two medical men should take part in every necropsy. 4. One of the two should be a competent medico-legal examiner appointed by the sheriff principal and the Secretary for Scotland for each procurator fiscal's district. 5. Any medical man directly interested in a case should have the right to be present, subject to proper regulations.

AT the Congress of Naturalists and Physicians held the other day at Chur in the Grisons the so-called "Bergkrankheit" (or mountaineering malady) was discussed at the instance of Dr. EGGER of Arosa—himself a "climber" as well as a consultant of repute in Switzerland. That the "Bergkrankheit" exists has already been acknowledged not only in the common parlance of the profession, but in authoritative classification; and certainly the symptoms that go to form a typical case of it are formidable as to number if not as to individual gravity. They are general debility, sickness, vomiting, tremulousness, headache, mental trepidation and loss of locomotor power. Hitherto these symptoms, that in their *ensemble* constitute "Bergkrankheit," have been ascribed to the exhaustion supervening on over-exertion—to the atony or unstrung condition, that is, for which the Germans have an admirable word, "Abspannung." But Dr. EGGER carried the majority of his hearers with him in meeting this view with a direct denial. The malady originates not in the patient himself but is imported from the outer air. The higher a climber ascends the thinner, the more rarefied the atmosphere becomes—in other words, the less oxygen it contains. Dr. EGGER illustrated the effects of this condition on the Alpine "peak-stormer" from experiments made on himself and his colleagues as well as on the lower animals. EGLI, the celebrated naturalist, had himself conveyed up Mont Blanc without putting his feet to the ground and was as fresh at his journey's end as at its beginning. But once on the summit and almost as soon as he began to move on his own account he felt oppressed and—in, of course, an initial degree—was conscious of the symptoms of "Bergkrankheit." The red colouring matter of the blood fell off rapidly and his hands grew cold and anæmic, with loss of muscular power. Dr. EGGER repeated a similar experiment on his own person with the like results. Not only so, but he collected the experience of twenty-seven individuals with the direct object of establishing something like a gauge or "law" of the blood changes. These subjects were novices in mountaineering, and in each of them the condition wrought in the circulation by a much lower altitude than that of Mont Blanc was, in quite a brief space of time, an increase of about 16 per cent. in the blood-corpuscles. Pursuing the same experiments at Arosa (1800 metres above the sea level) on puppies brought from Bâle for the purpose, he again found the rapid multiplication of the blood-corpuscles supervene under the same atmospheric influences. Further experience led him to conclude that amongst human subjects it is the corpulent, stoutly built specimen that is most liable to "Bergkrankheit" and not the lean and slightly proportioned one. Below such altitudes as that of Arosa, however, the blood changes are very trivial—often, indeed, scarcely perceptible—and no case of "Bergkrankheit" was noted.

Dr. EGGER'S paper and the discussion it provoked will be found to confirm the views given in these columns about a year ago as to the blood changes induced by the air at high altitudes. His thesis is not new, but his illustrations are valuable, and appearing as they do when the mountaineering pastime is at its height, they may be welcomed as decidedly opportune. They constitute a distinct warning to others besides Alpine climbers or "peak-stormers"—viz., to that section of the public for whom the railway engineer is exerting his ingenuity and enterprise by rendering the loftier summits of the Bernese Oberland accessible in an hour or two. The latest proposal of the kind is the Jungfrau railway, and its opening will but too certainly find thousands of the travelling world, who annually congregate at Interlaken, eager to make the ascent by its means. For one who now gains the summit of the Rigi (4200 ft. above the lake) there will be fifty who will essay the ascent of the Jungfrau (12,828 ft.), an altitude at which the blood changes illustrated by Dr. EGGER will be both rapid and severe, to the great risk of the many whose circulation is deficient in quality, in quantity or in recurrent force. So imminent, indeed, did this danger appear to the Congress at Chur that a discussion arose on the very point and the approaching completion of the Jungfrau railway was adduced as its justification. Dr. EGGER'S reply will commend itself not only to the profession but to the public as embodying very sound advice. The ascent to such altitudes by such rapid means as the "ballooning process," now emulated by Swiss railway engineers, "should never be attempted without medical sanction." Nay, so necessary is it that the promiscuous public, many of them in poor health, should be protected from the probable effects of that "morbid spirit of adventure" or craving after novel sensations that seems to take possession of them that it was proposed by Dr. EGGER and approved by his colleagues that medical advisers should be attached *en permanence* to the working staff of such railways—not only at their terminus on the height but at their starting-point in the valley. In this way "vicarious mountaineering," practised only by the physically strong, would bring no evil consequences to its votaries and Alpine Switzerland would be relieved of another of those risks which from being the "playground of Europe" have often made it the "graveyard."

ST. ANDREWS GRADUATES' ASSOCIATION. — On June 15th a complimentary dinner was given at the Langham Hotel by the St. Andrews Graduates' Association to the Rector-elect of the University, the Marquis of Bute, K.T. Sir Benjamin Ward Richardson, F.R.S., was in the chair and after the usual loyal toasts the health of the Rector-elect was given by the chairman and received with enthusiasm. Other toasts followed and the proceedings closed with the singing of "Auld Lang Syne."

Annotations.

"Ne quid nimis."

THE DIFFUSION OF SMALL-POX.

WHILST small-pox shows a general tendency to decrease in the country the disease still holds its own in a number of important centres. Amongst the more important of the places that were attacked last week the number of new cases was as follows:

Birmingham	19	Oldham	16
Blackburn	5	Salford	4
Bradford	13	South Shields	3
Coventry	6	Sunderland	3
Halifax	11	Wakefield	5
Middlesbrough ...	3	West Ham	25

Leicester had 15 fresh attacks last week as opposed to 7 in the previous week. In West Ham the prevalence of the disease is causing a great deal of anxiety; the means of isolation are most inadequate and imperfect, and complaint is made that the guardians refuse to perform their duties by carrying out the provisions of the Vaccination Acts. Other places attacked are Aston Manor, Ashton-under-Lyne, Birkenhead, Burslem, Burnley, Bury, Cambridge, Chaddington, Croydon, Derby, Eccles, Hanley, Handsworth, Hornsey, Huddersfield, Leicester, Newcastle-on-Tyne, Northampton, Nottingham, Rawtenstall, Rotherham, Reading, Sheffield, Thursmaston, Tottenham, Walsall and Warrington. In Leeds the actual number of attacks last week is believed to have been eight, and the epidemic shows further signs of abatement. In Warrington only one attack took place, and Mr. J. H. Gornall has supplied the health committee with statistics to show the protection afforded by vaccination during infancy even at advancing ages. The number of cases now daily under treatment in the hospital ships and in the convalescent buildings belonging to the Metropolitan Asylums Board has again fallen this week from about 470 down to 440; and having regard to previous experience in the metropolis we may reasonably anticipate a further diminution until the cold weather begins to prevail towards the month of November. At that date it is to be feared that a fresh accession of cases will take place.

THE RECENT WEATHER: ITS ADVANTAGES AND DANGERS.

THE weather this year has been quite exceptional. The long persistence of dry heat, with the thermometer ranging between 80° and 90° and upwards in the shade and over 100° in the sun, has reminded old Anglo-Indians of the climate of the Punjab rather than of the English summer. This exceptional weather has had its advantages as well as its disadvantages. Amongst the former we may say that it has been very enjoyable. It has been possible to count upon the continuance of fine weather from day to day, to glance at the barometer and leave the umbrella—the usual companion of our walks in this variable and uncertain climate—behind in the hall stand. In the next place the heat, being dry, has probably exercised a repressive effect on the epidemic manifestations of cholera. Cases of this disease have been making their appearance on the Continent and south of France, but cholera has, nevertheless, not assumed epidemic proportions since the advent of warm weather up to the present time. We are not, however, without many misgivings as to what may occur later on. Dry heat is the best and most bearable form of heat. It is not unhealthy. That it is possible to tolerate very high temperatures, if dry, and remain healthy was shown by the experience of our own army in Egypt during their expeditions up the Nile. On the other hand, the effect of the prolonged drought has been disastrous to the farmers, and will, if it continues, be productive of a milk famine, to the injury of children and invalids. A hot and dry summer is also frequently the precursor of outbreaks of typhoid fever in the autumn. In addition to the discomfort produced by heat—which varies to some extent in different classes of persons and different temperaments—there is the sleeplessness induced by hot nights, the loss of appetite and nerve energy, the liability to diarrhœa and intestinal derangement in children, and to heat-exhaustion and sunstroke in adults engaged in laborious work out of doors or occupying overcrowded and ill-ventilated rooms in-doors. The first thing to be borne in mind in hot weather is to secure the freest ventilation practicable in our houses and rooms and to avoid that "fussy" and excited state of mind and physical restlessness which many people manifest. People cannot get rid of the heat, but they can have well-ventilated rooms; they can be temperate in eating and drinking and especially in regard to alcohol; they can clothe in garments that are loose and light in weight and colour and such as to admit of transpiration through the skin and the freest respiratory movement, and they can avoid great physical fatigue and the heated stuffy air of crowded rooms. Heat induces a sense of depression and thirst with the temptation to have recourse to the temporary stimulation of alcohol; but tea and coffee are good respiratory excitants and free from the injurious effects of alcohol. If any one suffers from heat-exhaustion as the result of exertion and fatigue in hot weather, the body temperature not being increased but the circulatory and respiratory functions being lowered and enfeebled, exposure to a current of air, rest in the horizontal position, and the administration of some fluid food will probably soon bring about recovery. If the symptoms be those of heat-stroke or heat-apoplexy and attended with great increase of body temperature, embarrassed respiration and insensibility, the case is altogether different; it is one of danger. The exalted temperature is the all-important fact in such cases. If this be reduced to the normal standard the nervous symptoms, the unconsciousness and the deranged action of the heart will soon right themselves; consequently the reduction of the abnormally high temperature is the point to be attended to and no other matter is in the meanwhile worth regarding. Common sense, no less than scientific observation, indicate the application of cold to the surface, and cold water as the readiest and easiest way of applying it. Plenty of air, ice and cold water are remedies generally at hand until medical advice can be obtained, when these means can be supplemented by the use of other and powerful methods for reducing the temperature of the superheated body.

THE FRENCH GOVERNMENT AND BOGUS TABLE-WATERS.

THERE has been "death in the pot," and there may be "disease in the bottle," even of the so-called natural table-water. The British traveller abroad is apt, and not always unadvisedly, to suspect the "eau fraiche," or the "frisches Wasser," or the "acqua potabile" supplied him at hotels, and, *pro hac vice*, has recourse to one or other of the many competing table-waters appended to the wine-list. That he does not always change for the better may be inferred from the frequent raids upon table-water stores and the punishment of their fraudulent vendors we read of in various European States. France and Italy have shown a laudable rigour in the framing and enforcing of laws against this species of adulteration; but their enactments have been but partially successful, and the trade in natural table waters is still brisk enough to

justify caution in the British consumer. According to a report recently submitted to the French Ministry of Public Works, "des analyses ont révélées que ces eaux ne sont quelquefois pas naturelles et qu'elles sont fabriquées à Paris avec de l'eau de Seine ou de l'eau de puits malsaine." In many cases, continues the report, they contain not one of the principles announced on the labels of the bottles supposed to be charged with them. The Minister of Public Works, in view of the injury to health too likely to be caused by the consumption of those bogus beverages, is about to subject all the gaseous waters consumed in the Department of the Seine to a searching analysis, and with that object has empowered the *personnel* of the "Laboratoire Municipale" to take the necessary measures. The decree in which this resolution is embodied is announced for immediate publication, and its enforcement will come not a moment too soon. Partly from the long-continued drought and the diminution in the ordinary supply of common drinking water, and partly from the "cholera-shadows" hovering around the great centres of tourist resort, particularly on the north-western seaboard, there is at present a run upon bottled mineral waters the composition of which, as the French Ministry of Public Works has ascertained in Paris, is not what it professes to be, and is, in fact, dangerously impure. A significant warning is thus conveyed from an official source to the travelling public to beware of the too seductive syphon or the equally tempting table-water, supposed to be innocuous as well as pleasant, and to combine agreeably with the *petit verre* of cognac or liqueur, or with the vintage of the country. Their inherent unwholesomeness is in nowise counteracted by the alcoholic adjunct with which they are often taken; nay, in many cases by promoting absorption the said adjunct may accelerate their septic action. The safest plan is to get the particular table-water desired from the best pharmaceutical chemist of the locality, even though it may involve an additional charge "for corkage" from the landlord of the hotel. That charge, of course, will vary according to circumstances, but it can never be so high as to make the consumer think twice before incurring an extra outlay which may mean immunity from disease or worse.

THE ROYAL BRITISH NURSES' ASSOCIATION CHARTER.

WE gave last week a synopsis of the contents of the charter obtained by the Royal British Nurses' Association, from which it will be seen that there is no ground whatever for the suggestion, somewhat industriously circulated of late, that the Privy Council had refused to sanction the publication of the Association's Register. In order to prevent any misunderstanding upon this point it may be useful to give publicity to the terms in which the power to continue this publication is granted by the Crown. They read as follows: "The purposes of the corporation are the following ..... 3. The maintenance and publication of a list of persons who may have applied to the corporation to have their names entered therein as nurses and whom the corporation may think fit to enter therein from time to time, coupled with such information about each person so entered as to the corporation may from time to time seem desirable." So far, therefore, the corporation has entirely succeeded. It has been driven by an opposition, which even those who promoted it must now see reason to regret, to seek incorporation by the somewhat costly medium of a charter, but it has obtained what was necessary, and can now afford to forget the unworthy jealousies against which it has so signally prevailed. It is able now to enter upon a greater and a worthier task than that of asserting itself against detractors, and we trust that in the larger undertaking it will succeed as signally as it has succeeded in the smaller. In view of some recent discussions it is not uninteresting to observe that the general council of the association is invested with very large powers of government; indeed, the clause empowering the council declares that "the ultimate decision in any matter affecting the corporation shall rest with the general council." But the legal effect of this very comprehensive language is perhaps less than the ordinary reader would suppose, for the clause goes on with some seeming inconsistency to give to the council a power of expulsion or suspension, subject, however, to a right of appeal in the expelled or suspended member to "a general meeting to be forthwith summoned for the purpose." Apparently, therefore, in this case the ultimate decision is to rest not with the council but with the general meeting, and it would almost seem as if the power to adjudicate upon such questions implied at least a power to determine the principles upon which the adjudication is to proceed, so that a whole class of questions is withdrawn from the final determination of the council. These, however, are legal puzzles which need not occupy the members of the association, whose immediate business is to secure for their association a position in public estimation which shall be worthily representative of a profession which includes within its ranks no inconsiderable a proportion of all that is best and most amiable in the womanhood of our time and nation.

ALCOHOLISM IN SWITZERLAND.

"PER me si va nella città dolentë," wrote poor Alfred de Musset round his bottle of absinthe, and Sir B. W. Richardson has embodied the same idea in a phrase at once epigrammatic and scientific in its ring: "Alcohol is the devil in solution." Leaving on one side, however, the *vexata quæstio* of where legitimate use of alcohol ends and abuse begins, we may note the fact that, in Southern and Central Europe particularly, where the conditions of climate and race render the human subject less tolerant of alcohol than further north, its increased consumption and disastrous consequences have provoked against it a crusade whose leaders can point to even stronger justification than the paladins of the same movement in the British Isles. Amongst the Latin peoples the multiplication of homicides due to alcoholic stimulus is a fact confirmed over and over again by statistics and verified by medico-legal experts. It was bad enough when the new and fiery "wine of the country" was taken to excess, but the growing consumption of spirits, generally of the worst quality, which in the last decade has crept into the nationalities bordering on the Mediterranean, has raised crimes of blood to a figure perfectly appalling. Switzerland, exemplary in so many ways to the rest of Europe, forms no exception as regards the wide-spreading habit, and already an organised attempt to correct if not stamp out the same has for some time been on foot. At the head of the movement is the eminent alienist of Zurich, Dr. August Forel, professor of psychiatry in that medical school, well known as an accomplished and philanthropic physician in every department of State medicine. On the 9th inst. at Geneva, under the presidency of the veteran physiologist Professor Moritz Schiff, he delivered a lecture on alcoholism to the students of the University, who, following the example of other Swiss centres, have founded amongst themselves an "Association d'Abstinence." Having congratulated his young audience on the step they had taken, for "what the Universities do to-day the educated community will practise to-morrow," he reviewed in a series of masterly surveys the whole alcoholic question as it comes before the hygienist, the social reformer and the statesman, and drove his arguments home with a power which must tell on the wider public who read his reported words. Broadly put his position is this—alcohol should be relegated to the domain of medicine and its use made conditional

on the sanction of the practitioner. A less restricted use of it, however, would, we presume, be open to such members of the community as had qualified (in Sir James Coxe's phrase) to be "the intelligent custodians of their own health"—to such, in fact, as could be trusted to use it for dietetic or therapeutic purposes alone. The young whose unimpaired nervous and circulatory systems stand in no need of adventitious force especially should abstain from alcohol. Premature indulgence in it inevitably forestalls its beneficial power at the time when failing health demands it, and the proverb "vinum lac senum" (wine is the milk of the old) loses its relevancy when, by early habituation to it, the system has ceased to respond to its medical administration. This is one of the most effective arguments against "moderate drinking"—one which the practitioner who knows the value of alcohol (in senile pneumonia, for instance) peculiarly appreciates. Professor Forel goes so far as to say: "La modération dans l'alcoolisme est une chimère." And certainly the so-called "moderate" drinking of the inhabitants of a city like Munich, which consumes per head, including women and children, 568 litres of beer on an average, gives a test of how elastic an interpretation the adjective admits. As to Switzerland and its alcoholism Professor Forel proclaims the necessity for immediate action. "Presque tous les crimes commis chez nous sont dus à l'alcoolisme, surtout occasionnel et le dimanche, et les enfants tarés de son fait pullulent." This reference to the rising generation has peculiar force in a country where, at school, the early use of gymnastic exercises speedily sifts out the pupil who has been constitutionally impaired by alcoholism from the one who has not. Professor Forel thereupon made an appeal to the mothers of families throughout the Confederation and expressed the hope "que toutes les femmes européennes remplissent leur devoir comme les Anglo-Saxonnes: c'est leur intérêt direct qui est en jeu." The lecture, though its theme was a well-worn one, contained much that was novel and striking and may be welcomed as a valuable contribution towards what used to be called the "great crime of great cities," but which Professor Forel shows us is now penetrating into the regions whence great cities recruit their effete population, such as the lowlands of Pastoral and the uplands of Alpine Switzerland.

OUR COURTS OF LAW.

DURING the intensely oppressive heat of the last few days no people have suffered more inconvenience and in many instances more real distress than those engaged in some of our inadequately ventilated courts of law. In one of these two jurymen fainted and were unable to resume their duties, and shortly afterwards the judge himself had to retire. Apparently two young barristers, keenly interested in their respective briefs, gathered force and intellectual vigour, but with these exceptions most other persons in court looked disposed to follow the example of the judge and two jurymen. The case happened to be one of medical interest, consequently a member of the profession was present, who rendered all necessary assistance. It is notorious that our law-courts, whatever else they may be, are very indifferently ventilated. Their construction renders it almost inevitable that they should be lighted from the top, making them thereby into something little less than exotic plant-houses. We cannot help thinking that a more efficient means of diverting the direct rays of the sun might be devised than that now commonly in use. As a rule there could be no objection to some kind of screen, say of canvas or, better still, of wood, placed outside the windows or skylights so as to divert or intercept the direct sun-rays. This need only be a temporary structure, readily removable as soon as it was found to interfere with the sufficient lighting of the court. Our judges deserve, and in fact have a right to, the fullest consideration for their convenience and comfort. To discharge their duties efficiently is ex austive enough in itself, apart from all the inconveniences and disadvantages of physical discomfort, such as we have referred to. To pass from the general consideration of this matter to the particular case which has been brought under our notice, we may mention that the court was Bow County Court, a roomy and airy one compared to a great many county courts, and the date Wednesday, June 14th. Much of this condition of things is avoidable, and we cannot refrain from representing strongly to those responsible that something should be done to lessen the inconvenience and danger.

TURKISH CONTRABAND.

IT was the First Napoleon who, in round terms of satire, accused the Austrian people of being always behindhand. We have it on the more reliable authority of an exact report by Her Majesty's Consul-General at Constantinople that a like distinction has been fairly earned by modern Turkish customs officials. Amusing statements of fact prove that a singular ignorance of the most ordinary marketable commodities prevails amongst these men. We read of a phonograph seized as a suspicious instrument, of excellent malt vinegar condemned as unfit for human use, of chlorate of potash intended for hospital use confiscated *en route* as an explosive, and so on. Importers, it is very clear, have need to be careful that every package transmitted to them of which the contents have not an absolutely world-wide reputation is accompanied by copious explanations. In one particular this very Oriental excess of caution has covered a need long felt and too little regarded amongst the better educated Western peoples. Turkey will have nothing to do with patent medicines, evidently in accordance with a simple rule by which the unknown is contraband. We should certainly advocate, though not on the same grounds, a much greater reserve than is now usual amongst ourselves in this matter. For lack of some form of official control the public are constantly imposed upon and frequently injured by these preparations.

THE ADVANCE OF ANTHROPOLOGY.

MEDICINE can claim as her own this youngest of the sciences which seems to have been born some seventy years ago and after a struggling puberty and adolescence to have attained virile proportions and the rights of scientific citizenship. First defined by the great French anatomist Cloquet in 1823 as "the natural history of man, whether we consider him as an *individual* in his structure, his composition and his phenomena, physiological and intellectual, or whether we study him as a *species* or a *genre* presenting a plurality of races, living in society and perfecting himself by civilisation," anthropology sets before itself as its aim the determination of man's place amongst organised beings. Concurrently with the anatomico-physiological investigations which the science calls into play, the psychological studies it also necessitates have of late years absorbed an almost greater attention, inasmuch as it has seemed to encroach on and even usurp the domain long "preserved" by the votary of mental philosophy. In this aspect—particularly on the pathological side—it is being cultivated by alienist experts with yearly increasing enthusiasm, and the results yielded by these investigators threaten, for the time at least, to overshadow the palæontological and anatomical researches associated with the great names of Broca and Virchow. Everywhere—particularly in America and on the European continent—we see the formation of anthropological associations, the distinctive feature of which is the preponderance which the psychological is asserting over the anatomical or even physiological interest of the science. This development of anthropology is conspicuous in Italy, which of late years has been rivalling even France in the minuteness and comprehensive-

ness of its pathological investigations. An instance in point comes to us from Rome, where, on the 4th inst., there was founded the Società Romana di Antropologia, with the avowed object, according to its programme, of "promoting and encouraging the study of anthropology ethnologically," with special aid from "psychology, experimental and comparative, and from sociology." The medical staff of the Sapienza contributes a large proportion of the membership of the new Società, but "adesioni" have also been received from all parts of the peninsula, till, on the 4th inst., the entire *personnel* had attained the number of eighty. Its organising committee has for its president Professor G. Sergi; vice-president, Professor C. Bonfigli; vice-secretary, Professor G. Mengazzini, and treasurer, Professor A. Collini; the working editors of the Transactions of the Society are Professors E. Ferri, B. Labanca, E. Sciamanna, and the advocate M. A. Vaccaro—names eminent in alienist literature or in the physiological and psychological studies that are allied to it. A series of monographs on questions of more immediate interest, particularly on the debatable ground where criminal responsibility and legal jurisdiction meet, has already been submitted for discussion and when published in the "Atti" will, from the names of the writers, excite attention far beyond the arena of the society. In the anthropological section of the International Medical Congress the new "società" is expected to make its authority felt—not always, however, in support of the views advocated by Lombroso and Colajanni. On the contrary, it contains members more akin to our soberer British school in point of speculative caution and reluctance to premature generalisations.

ACCIDENTAL ADMINISTRATION OF CARBOLIC ACID BY A NURSE.

A VERY unfortunate occurrence at Bengeo College, Hertford, which has been fully reported in the daily press, has drawn attention to the vital importance which seemingly small details in the training of a nurse may assume. A pupil of the school has succumbed to the effects of a dose of carbolic acid administered to him in mistake for a cough mixture by a professional nurse, whose conduct has naturally enough been very severely commented upon in view of the sad mishap which she has met in connexion with this patient. She appears to have committed the oversight of placing a bottle containing the poison upon a table amongst other bottles containing medicine at a moment when her attention was demanded by one of several patients whom she had in charge, and of having subsequently forgotten to remove it to a place of safety. This slight breach of routine had the most lamentable consequences. The nurse retired to rest and was aroused from sleep by the coughing of one of her patients. Whilst still but half awake she administered what she supposed to be a dose of cough mixture, it being, in fact, a dose of carbolic acid, and was startled into full consciousness only by being told by her patient that the medicine tasted "like liquid fire." It is impossible to hold this unhappy girl responsible for having failed whilst half asleep to recognise the shape of a poison bottle or to consult the label before administering the contents. The derelictions would amount to gross negligence on the part of any nurse in full possession of her faculties; but those "who rouse and bestir themselves 'ere well awake" can no more now than in Milton's day escape confusion. The rider added by the jury to their verdict that the nurse was not sufficiently awake at the time "to make her criminally responsible for the act" appears upon the evidence reported to be no less just than humane. Against a mischance like this the only possible protection is afforded by a carefully devised routine of work, and it is in the cultivation of habits in accordance with such a routine that a very large part of a nurse's training consists. The original error by which the bottle of carbolic acid was placed in a position to be mistaken for a medicine bottle is precisely one of those little slips so easy to commit by a perfectly innocent oversight that none but a trained person can hope always to avoid them, though to a thoroughly trained person they should be impossible of commission.

THE MIDWIVES BILL.

THE Select Committee on Midwives Registration was agreed to on Friday, the 16th inst. Its members are: Mr. Albert Bright, Mr. Tatton Egerton, Dr. Farquharson, Mr. Fox, Sir Frederick FitzWygram, Sir Henry Howorth, Mr. Fell Pease, Mr. Priestley, Mr. Rathbone, Mr. Stephens and Mr. Arthur Williams. The Committee have power to send for persons, papers and records, and five are to constitute a quorum. The Committee met on Tuesday, the 20th inst., to appoint a chairman and arrange the course of procedure. The choice of chairman fell upon Mr. Fell Pease, who was chairman of last year's committee, and the Committee arranged to examine witnesses on the 30th inst.

MILK ADULTERATION: IMPORTANT DECISION.

AT the Paisley Sheriff Court an interesting point has been raised and decided. Some time ago a woman who retailed milk was prosecuted under the Food and Drugs Act and was fined for adulteration. The farmer who sold her the adulterated milk raised an action against her for the price of it, but she refused to pay, alleging that she was entitled to set against the account the amount of the fine and expenses connected with the prosecution. Evidence was given to show that repeated complaint had, previously to the prosecution, been made to the farmer without effect, and that the milk for the sale of which the woman was convicted was sold exactly as it had been received. The sheriff held that the conviction under the Food and Drugs Act was right, as the milk had undoubtedly been much adulterated with water. He further held that the woman, having sold the milk as she received it, was entitled to recover from the farmer the fine and expenses of both actions, amounting to the sum sued for in the present action, and he gave judgment accordingly.

THE HEALTH OF PRINTERS ABROAD.

DR. ADOLF VOGT, Professor of Hygiene in the University of Berne, has recently delivered a highly interesting lecture before an audience of compositors at Bâle on the "Hours of Labour and the Diseases in the Printing Trade." All over the world, but particularly in the German-speaking communities, the occupation of the printer takes rank amongst the unhealthiest. That alcoholism contributes in a special degree to this result is strenuously denied by Professor Vogt, who finds that printers, on the average, are honourably distinguished for the non-abuse of strong drink. Their high death-rate he ascribes to lung disease—particularly to pulmonary phthisis. For every 1000 male victims to this malady 72 (according to Professor Vogt) are printers, being about the highest figure reached under this head by any trade. The conditions under which the compositor works, in Germany particularly, could hardly be worse. From the type he handles he contracts what is known abroad as the "intoxication saturnine," which favours a general steatosis of the tissues, resulting in an anæmia, which after a certain stage resists all remedial measures. In addition to this, his hours of work are rarely under eleven out of the twenty-four and these are spent in an atmosphere in which fresh air is at a minimum, whilst the noxious elements with which it is charged become trebly injurious under the high temperature almost uniformly maintained. Electric lighting has already done something to mitigate this latter condition, but its introduction will have to become general before it can affect the health statistics of

the trade. Professor Vogt advised his German-Swiss audience to bring all influences to bear on a revision of the factory laws as the first step towards improving their sanitary conditions. He further admonished them to agitate by way of petition to the Federal Council and, on the basis of inspectoral reports, to approach their employers in a spirit of amicable remonstrance; but on no account to adopt the violent method of strikes. In the discussion that followed his address there was considerable diversity of opinion, but at its close the sense of the meeting was favourable to Professor Vogt, whose counsels were dictated by a conciliatory spirit in harmony with the interest in the welfare of his audience by which his researches into their case were inspired.

THE ROYAL FREE HOSPITAL.

THE safety of this institution was threatened on the 17th inst by the outbreak of a fire on the premises adjoining. It was at one time feared that a portion of the hospital would be involved, and the patients were removed from the exposed wards to those in another part. The wind, fortunately, was blowing in a direction away from the hospital or it would certainly have fared worse. It is satisfactory to find that this was carried out without any accident or confusion under the directions of the senior resident medical officer, Mr. Griffith, and that none of the inmates suffered from their removal. The hospital is well supplied with hydrants, and the porters, who have been drilled in their use by an officer of the Fire Brigade, were able to render useful service during the earlier period of the fire, and probably materially assisted in checking its progress. We must commend the action of the governors of this institution for the way in which they have acted in preparing their servants for effective use in case of the outbreak of fire. It behoves a hospital which is partly surrounded by premises in which large quantities of wood are stored, and hemmed in on a third side by a cartridge manufactory, to be prepared to meet such emergencies promptly.

BURIAL REFORM.

A MEETING of the Church of England Burial, Funeral and Mourning Reform Association was held on the 7th inst., Dr. Norman Kerr presiding. The report of the honorary secretary drew attention to the fact that the association was in the fourteenth year of its existence and entered a plea for obvious and effectual remedies for many prevalent burial abuses. We limit ourselves to that which concerns us the more as safeguarding the public health—viz., "sanitary burial in the plain earth instead of irrational, disrespectful, insanitary and costly storing up of mortal remains in imperishable coffins in vaults and already overcrowded graves." Whilst it is satisfactory to learn from this report that the society has not only been a boon to the poor, but also a handmaid to the various religious, temperance, thrift, relief and sanitary authorities, we must express our regret that strong oak coffins with their shining brass furniture should still continue to be used by those who must be fully aware of the evils which result from them. If a few individuals from the upper or middle classes were selected at random and their opinions were taken on this point, not one would be found to defend the present system. The majority of intelligent persons are more or less indifferent as to the disposal of their bodies after death, but it may be safely asserted that not one would be found to express a wish that his or her body should be carefully preserved in a polished oak or elm brass mounted coffin and in a walled grave or vault. It is the result partly of tyrannical custom and partly of leaving all to the undertaker. The latter has been shorn of much of his former profits derived from the sale of scarves and hatbands, and the hire of palls, plumes, feathers and other trappings of woe. The polished coffin and the brass furniture are the surviving relics of the "funerals completely furnished" of a past age and are clung to with affectionate tenacity by those whose interest it is to have them continued. But the undertaker is, after all, what the public make him. The courage and persistence of a few individuals swept away the costly and useless trappings of woe; only a very little more courage is required to substitute cheaper and perishable coffins for the pretentious upholstery exhibited in the coffin of the day. If the upper classes would set the example and make perishable coffins fashionable, it would soon spread to the working classes, who are still tempted to spend upon a coffin and a burial money which would be much more wisely expended in providing additional comforts and even necessaries for the living.

INSANITARY HOUSES.

A CASE heard on June 18th by Mr. Justice Grantham and a jury contains a point of interest to house owners which deserves notice. A tenant sued his landlord for expenses incurred in the cure of the former's children during an illness which is reported to have begun with sore-throat, "giving way" to scarlet fever and being followed by diphtheria. It was alleged that the drainage of the house was faulty but that the defendant had clearly stated before the house was taken, that it was in a good state. The representation, if there was one, was verbal, but this was held to be sufficient and the jury were satisfied that the illness was caused by the condition of the house. A verdict, therefore, for the plaintiff, with £60 damages, was given by the jury. The grounds for assuming that any particular illness is due to a local condition of this sort are not very certain and juries are, perhaps, as a rule not especially well qualified to determine so complex a question. We would gladly see cases such as this referred to a capable health officer, who would be far better able to examine the evidence and arrive at a correct conclusion. In the present case if the warranty was given the tenant deserved compensation for having been induced to take a house which was in an unwholesome condition whether the illness was caused by the condition of the house or not.

THE DROUGHT AND ITS EFFECTS.

To have great heat in summer is by no means exceptional, but the memory of this generation will hardly recall a season of such prolonged and continuous drought as the present. For weeks, nay months, we have anxiously looked for rain. The evil resulting from its absence is no doubt a real one if we regard it from the agricultural standpoint, yet it is not unattended by compensating advantages. No sanitarian will regret the long prevalence of dry and bright weather, which it cannot be doubted has aided materially in limiting the spread of such diseases as cholera and small-pox, the latter of which has not this year omitted the metropolis in its visitation. An epidemic of sore-throat and an excess of infantile diarrhœa are, on the other hand, attributable with tolerable certainty to the existing weather conditions, inasmuch as these favour the diffusion of nameless and numberless, but not harmless, telluric emanations. Yet one more effect of the dry weather is the widely-felt and still increasing scarcity of hay fodder. In France, indeed, many cattle breeders have preferred to slaughter their expensive live stock forthwith for the meat market rather than rear it at a loss. The consequence is that the market is overstocked with carcases awaiting consumption and meat is at a discount. As a means of securing its prompt removal the authorities, it is stated, are doing what they can to stimulate the energies of the Paris tinned meat companies. The announcement is significant. No doubt there is, in the words of the poet, "a tide in the affairs of men" &c., and we may hope that manufacturers of potted meat have taken it opportunely. If in any case it be otherwise, we know what becomes of the

manufacture. We would still ask, and somewhat seriously, what of the meat in such weather as the present and what of the consumer? The question is not a light one and it is one to which the municipal authorities of the French capital should devote their earnest attention. An invasion of the country by cholera should surely suffice for one season without the simultaneous prevalence of a diarrhœa due to septic changes in meat.

LECTURES AT THE ROYAL COLLEGE OF PHYSICIANS.

THE Gulstonian lecturer for 1894 will be Dr. Paul Morgan Chapman. Dr. Sturges will deliver the Lumleian lecture (1894) and Dr. Marcet the Croonian lecture for the year 1895. Dr. Pye-Smith has been appointed to deliver the Harveian oration in the month of October next.

HOLIDAYS FOR HOSPITAL NURSES.

WE may reasonably regard the present almost unexampled continuance of summer sunshine as representing the best part of our annual allowance of holiday weather, and it is natural, therefore, that the general desire for fresh air and for leisure to enjoy it should already be finding its outlets in various enterprises of recreation. One of these in particular has attracted our attention. It is that originated by an unknown friend whose thoughtful kindness has arranged for the nursing staff of the London Hospital a series of short and lovely river trips in a steam launch on the Thames. No one who understands the nature of the nurse's duty and the anxious attention and constant service it implies will grudge her well-earned breathing space, and no more suitable mode of combining rest of body with mental refreshment than that we have referred to could well have been contrived. Would that the nursing inmates of other hospitals were as well befriended. Nor would we forget the trained staff employed in our workhouse infirmaries. Notoriously few, proportionately overworked, and yet in some instances and probably oftener than is known entirely devoted to their obscurely noble service, these women, if any, are entitled to the best that gratitude can give them. We hear much nowadays of social democracy. Surely there is room enough for the exercise of such a judicious and voluntary socialism as finds illustration in the scheme above mentioned.

THE PHARMACOLOGY OF THE ORGANIC OXIMIDES.

THERE is an essential structural difference between organic oximides and the nitrites. In the nitrites the nitrogen is attached to oxygen, whereas in the oximido bodies the nitrogen of the "oxime" group is attached to carbon and the group C=N.OH may be considered present. To correlate this structural relationship with the pharmacology of these bodies, and to discover how far they may possess any pharmacological type which can be isolated and referred to the presence of the group =N.OH was the ultimate object of an interesting research by Dr. H. W. Pomfret, the results of which have been recently communicated to the Royal Society by Sir William Roberts. Representative members were selected for pharmacological investigation from several series of the oximido bodies. From the fatty aldoximes were taken ethylaldoxime, propylaldoxime, isobutylaldoxime and œnanthaldoxime; acetone was chosen to represent the ketoximes, isonitrosoacetone the isonitrosoketones, and benzaldoxime and salicylaldoxime the aromatic bodies. The physiological actions of these substances recall in many points the properties of nitrites. When oxidised at the body temperature decomposition takes place, and very soon the presence of a nitrite can be demonstrated. This decomposition consists essentially in the separation of hydroxylamine from an aldehyde or ketone. In other cases the intermediate production of hydroxylamine has not been proved, but an immediate oxidation of the whole molecule and severance of nitrous acid have appeared possible. It has been determined that muscle contraction is probably due to direct irritation of the nerve end plates, the irritant in the case of these oximido bodies being an aldehyde or perhaps more accurately the COH group. Experiments on the oxidation of acetoxime and isonitrosoacetone have led to the detection of an aldehyde—pyroracemic aldehyde in the case of acetoxime $(CH_3)_2:C:N.OH$, and acetylformic aldehyde in the case of isonitrosoacetone. This formation of aldehyde, should it take place in the tissues, would then be a sufficient explanation of the occurrence of contraction.

"A FIT OF THE GOUT."

OUR contemporary the *Leisure Hour* has a paragraph on the above subject. Unlike the remarks of many lay journals which from time to time assume the serpent rod of Æsculapius and descant upon matters medical, those of the *Leisure Hour* on this subject are simple, useful and to the point. That gout is largely a cacometabolism induced by a particular kind of food may be argued from its extreme rarity in countries where whisky is drunk and from its common occurrence in countries in which the use of the heavier malt liquors is prevalent. The cause of the arrested metamorphosis of nitrogenous foods which results in the formation of uric acid rather than urea may be twofold—viz., either the consumption of too large an amount of nitrogenous material or the presence of a debilitated constitution which lacks the force for the complete metamorphosis of waste products. "Poor-man's gout"—the gout which attacks those who cannot be said to consume too large an amount of the foods in question—must be ascribed, apart from the question of special heredity, to such a defective constitutional force. The patient suffering from "poor man's gout" need not necessarily be poverty-stricken. It is such an one who sometimes benefits under the administration of good port wine. Speaking generally, no doubt measures which tend to alkalinise the blood and excretions are useful in the acute phases of gout; but we have said enough to indicate the complexity of the subject and the desirability of sufferers consulting educated physicians rather than accepting the advice, however kindly tendered, of lay periodicals.

THE POWERS OF CORONERS.

THE power possessed by coroners includes the right of prompt admission of the coroner and jury to any place in which lies the body of any person on which an inquest is to be held. From the proceedings at an inquest held by Mr. G. V. Wyatt on the 16th inst. on the body of a man who had committed suicide by jumping into the Thames from Southwark-bridge it would appear that some of the officials of the St. Saviour's Board of Works are either unaware of this power or, knowing it, choose to disregard it. In consequence of there being no one in charge of the Ewer-street mortuary and the key not being procurable, the coroner and jury were kept waiting outside the mortuary for about half an hour and, the key not having arrived, they were obliged to reverse the usual order of proceedings as laid down in the Coroners Act of 1887 and of previous Acts and to take the evidence first before viewing the body. The coroner expressed himself strongly on the conduct of the authorities in not either having an attendant in charge of the mortuary or allowing his officer to have a key to open the door. He also complained that on a former occasion he had been insulted. But for the circumstance that it would have added to the scandal he would have been perfectly within his rights had he ordered the door to be broken open. It is to be hoped that such an extreme course will never have to be taken, but it is on all accounts desirable that a like neglect on the part of some official

will not be repeated. The coroner might well term the parish a heathen one and declare that they treated dead bodies like dogs or logs of wood. Viewing the body is a sufficiently disagreeable duty without such additional annoyance.

MENTAL DISEASES AT ST. THOMAS'S HOSPITAL.

THE establishment of an out-patient department for mental diseases, under the charge of Dr. Rayner, a former medical superintendent of Hanwell, marks a new departure, supplying a want that has been long recognised. The statistics of the admissions to asylums show that in a large proportion of cases the mental symptoms had existed for upwards of three months; consequently there must be in the population at large, at all times, a great number of persons in a stage of disorder most amenable to treatment and of the greatest interest from a clinical point of view. The existence of this out-patient department cannot as yet be widely known to the classes whom it is intended to reach, but the experience of the few months in which it has been in operation has proved that a considerable number of persons are ready to avail themselves of the opportunity offered them and that a great amount of benefit can be derived from the treatment. Criminals and paupers are steadily diminishing in proportion to the population, but the insane are accumulating in our asylums, to the dismay of the ratepayer and the despair of the philanthropist. This fact is at the present time being impressed on Londoners by the opening this month of another large asylum at Claybury, and this should render welcome any attempt to reduce the load thus being laid on the country.

PERNICIOUS ANÆMIA AND DEGENERATIONS OF THE SPINAL CORD.

IN a recent number of the *Neurologisches Centralblatt* an abstract is given of an important paper on this subject contributed to the *Zeitschrift für Klinische Medicin* by Dr. W. Minnich. Professor Lichtheim was the first to call attention to the occurrence of degenerations of the spinal cord in association with pernicious anæmia. This was in 1887, at the Congress für Innere Medicin, the special degeneration which he described being in the posterior columns. The three cases to which he briefly drew attention are more fully described in this paper as well as three additional ones. The first case showed profound anæmia, there were paræsthesiæ in the arms, the gait was slow and feeble, but the reflexes were normal. Evidences of the presence of bothriocephali were present in the stools. Degeneration was found to be well marked in the posterior columns, but the posterior roots were normal. In the second case there were anæmia and weakness, with numbness in the fingers and feet; later there were impairment of sensibility in the lower extremities and loss of the knee-jerks, but no ataxy. The changes in the spinal cord were similar to those in the first case. In the third case there were were weakness, anæmia and sensory impairment in all four limbs. There were also ataxy and Argyll-Robertson pupil, and the knee-jerk was lost. Here, also, well-marked degenerations of the spinal cord were found in the posterior columns, whilst the posterior roots and the peripheral nerves were intact. The fourth case also showed marked anæmia, with weakness and paræsthesiæ in all four limbs. The gait was at first ataxic, but later spastic, and sensibility in the lower extremities became impaired. The knee-jerks were exaggerated and there was slight paresis of the bladder and rectum. In the spinal cord there was degeneration in the posterior columns, and also in the posterior part of the lateral columns. In the cervical and upper dorsal cord there were also isolated foci of myelitis. The posterior roots and peripheral nerves were unaffected. Although in this case the characteristic signs of pernicious anæmia were not present Dr. W. Minnich suggests that it was essentially of the same character as the preceding cases and that the posterior columns were first affected, the involvements of the lateral columns occurring afterwards. The next case showed marked motor weakness of the arms and legs, anæmia and dropsy. Ova of bothriocephali were present in the stools. There were ataxy of the legs and sensory impairment in all the limbs. The knee-jerk was present. At a later stage there was great weakness of the limbs with much sensory impairment, the knee-jerk was feeble and there was incontinence of urine. The pupils were normal. In the cord there was degeneration in the posterior column and also in the lateral and anterior columns, and again the posterior roots were unaffected. The sixth patient had long suffered from great anæmia, and when he came under observation he was very pale and complained of a feeling of fatigue in both lower extremities. There were marked sensory impairment and pains in the limbs. The knee-jerk was exaggerated and there was loss of control over the bladder and rectum. Delirium was present before death. In the spinal cord there was found a marginal degeneration both in the lateral and posterior columns, whilst the posterior roots peripherally were intact. All the patients were men and ranged in age between thirty-six and fifty-eight. It is worthy of note that in two of them evidences of the presence of bothriocephali were found. The cases form a most important group, and it may be, as is suggested in the paper, that the sclerosis is the result of some toxic influence which is a concomitant of the blood state. The presence of anæmia, parasitic worms and nervous symptoms naturally suggests the analogy of beri-beri, in which all three are frequently associated; but in that disease the nervous symptoms are, according to our present knowledge, the result of changes in the peripheral nerves.

THE COMING CONGRESS AT ROME.

WE would direct the attention of our readers to the fact that, in connexion with the International Medical Congress to be opened at Rome on Sept. 24th, the Orient Steam Navigation Company will despatch their well-known ship *Garonne* from Tilbury Dock on Sept. 12th at noon. The ship will call at Cadiz on Sept. 17th and will remain in port for fifty-seven hours, giving the passengers an opportunity of visiting Seville. From Cadiz she will sail on the afternoon of the 19th and will anchor at Civita Vecchia for Rome on Sept. 23rd. Civita Vecchia is only about two hours' journey from Rome by rail. The *Garonne* will leave Civita Vecchia on the 27th and will arrive at Naples on the following day, and will not leave Naples for the return journey until Oct. 2nd. On the return journey a stop of twelve hours will be made at Malaga on Oct. 6th; of twenty-four hours at Lisbon on the 8th and 9th; and Plymouth will be reached on the morning of the 12th and London on the following day. Intending passengers will have the option of taking tickets for the whole trip, out and home (40 guineas); or for Rome only (£25), or from Rome to London *viâ* Civita Vecchia (£30), or *viâ* Naples, including railway fare from Rome to Naples (£25). The ancient medical school of Salerno, which is thirty-four miles from Naples, would prove an attraction to medical travellers in addition to the truly bewildering number of objects of interest to be found at Rome and Naples. For those who love the sea and have a fancy for sea-breezes rather than stifling railway carriages the programme of the Orient Steam Navigation Company is well worth attention.

FOREIGN UNIVERSITY INTELLIGENCE.

Bonn.—Dr. Wilhelm Kochs has been promoted to a Professorship of Physiology.

Utrecht.—It is expected that the chair of Surgery vacant by the death of Dr. Salzer will be offered to Dr. von Eiselsberg of Vienna.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE death of the following distinguished member of the medical profession abroad has been announced:—Dr. Emile Blanc, a well-known gynæcologist of Lyons, contracted infection from a case of puerperal septicæmia during the removal of placental remnants through a slight and unnoticed abrasion of the skin of his left forefinger. The first symptom of mischief was severe pain in the axilla six hours after the operation, which was followed two hours later by rigors, vomiting, extreme prostration and a high temperature. The cellular tissue of the axilla became œdematous and of a yellowish colour, and several soft friable, but non-suppurating, glands were afterwards removed, but only a temporary improvement occurred, death taking place on the sixth day. Cultures from the glands removed showed the presence of a streptococcus in a very virulent form.

IN consideration of the 800,000 lire (£32,000) bequeathed by the late Senator Giacinto Pacchiotti to the municipality of Turin the mayor of that city has proposed and carried a resolution to commemorate the munificence of the donor by a monument within the cemetery. It will be remembered that one of Dr. Pacchiotti's dispositions contemplated the building of an elementary school in the centre of Turin, representing in itself every improvement of late years effected in scholastic architecture, hygiene and general management. The mayor, again, in recognition of the philanthropy of the medical testator, has carried a resolution to the effect that the school shall bear the name of Pacchiotti and that its vestibule shall be adorned with his bust. Designs for the building as well as for the bust have been thrown open to artistic competition.

DR. H. D. ROLLESTON, Fellow of St. John's College, Cambridge, has been appointed an assistant physician, and Mr. Arthur Marmaduke Sheild, F.R.C.S., an assistant surgeon, to St. George's Hospital. Dr. Rolleston has been pathologist to St. George's Hospital for several years and Mr. Sheild leaves Charing-cross Hospital to rejoin his old school.

DR. S. POZZI of Paris has been commissioned by the French Ministry to proceed to the United States and to study the organisation and installation of surgical laboratories, instruments used in the practice of surgery, as well as general questions of the teaching of medicine and surgery. Dr. Pozzi is instructed to pay especial attention to medical matters at Chicago.

THE FESTIVAL DINNER of the National Hospital for the Paralysed and Epileptic (Albany Memorial) will be held this (Friday) evening at 7 P.M. in the Whitehall-rooms of the Hôtel Métropole. The Right Hon. the Earl of Dudley will take the chair.

A FESTIVAL DINNER in aid of the "Clarence Memorial Fund" of St. Mary's Hospital will be held at the Whitehall-rooms, Hôtel Métropole, on Saturday, July 1st. His Royal Highness the Duke of Cambridge, K.G., will preside.

DR. COLONNA CECCALDI has been sent to Russia by the French Government for the purpose of studying the diseases of Charbon and Rouget (a form of swine fever).

DR. THORNE THORNE will deliver a lecture on Cholera Prospects and Prevention on Saturday, June 24th, at 4 P.M., in the Rubens Gallery, Grosvenor House, W.

A CONVERSAZIONE will be given by the Society of Arts on Friday evening, June 30th, at the Imperial Institute, South Kensington.

CHOLERA.

THE latest intelligence received from Egypt regarding the outbreak of cholera at Mecca shows it to have been of a severe character. From June 13th to June 16th the deaths numbered 317, from the 16th to the 20th they amounted to 830, and the disease is still continuing, 180 deaths from cholera having occurred on the 20th inst. The Egyptian authorities are naturally anxious as to its probable extension to that country and are, it is understood, taking active precautionary measures against it. It will be interesting to learn what were the sanitary conditions of Mecca and of Muna and Jedda at the time of this outbreak of cholera. The dry and sandy nature of the country is not unfavourable for conservancy arrangements, and if only proper care were taken many nuisances and disease-producing conditions could be avoided. Some years ago a large reservoir, fed by a branch of the Zobeida aqueduct, was constructed for the supply of water to the pilgrims yearly attending the Haj. The water was drawn from stop-cocks and means were taken to protect the stored water against pollution. The size of this reservoir was said, however, to be insufficient to meet the wants of the pilgrims during the Haj season and additional reservoirs were required. The old and polluted water tanks were usually emptied previously to the great annual gatherings of pilgrims so as to compel them to have recourse to the reservoir for their water-supply; guards were also placed over the reservoirs along the Zobeida aqueduct and Jedda and Mecca were kept constantly swept and clean during the Haj season. That these measures have been attended with a large measure of success in the past has been shown by the absence of epidemic disease amongst the pilgrims on several occasions. There was an interval of six years, for example, before the outbreak of cholera occurred during the Haj in 1890. The disease then appeared on July 28th, the third day of the Haj. But whenever there is any relaxation of vigilance the tendency is, of course, to relapse into the old and ordinary state of things; the towns become dirty, surface cleanliness is neglected, over-crowding prevails, the water-supply is not effectually guarded against contamination and the ordinary and elementary principles of hygiene become a dead letter. The present situation at Mecca becomes serious in view of the pilgrimages that will soon commence and are expected to be numerously attended this year. At a recent meeting of the Consultation Committee on Public Health in Paris a report upon the distribution and prevalence of cholera was read by Dr. Proust, Inspector-General of Sanitation in France. He said that cholera was present in Malacca and at Bassorah in Turkey, and that telegrams from Bagdad showed that the disease had made its appearance at Chatra and Amara. During the past month there had been as many as 126 deaths from cholera in those places. There seemed little doubt that the disease had spread rapidly amongst the Arab tribes of Lower Mesopotamia or Irak Arabi. The point menaced, according to Dr. Proust, is Bagdad, but happily the inundations caused by the two great rivers had cut off land communications between that city and its environs. Coming to places nearer our own country, however, we find that somewhat serious epidemic indications are present in the South of France. There have been cases of cholera at Alais, Cette, Nimes, Montpellier, Toulon, Lodève, Toulouse, Hyeres, Marseilles and other places in France. Sporadic cases of cholera or choleraic diarrhœa still continue to make their appearance at several of the places we have named. In this connexion we would call attention to the information contained in our special correspondent's communication. Epidemic manifestations of the disease do not usually prevail in the first half of the year, to the extent, at any rate, that they frequently do later, and, although heat is a favourable factor in cholera, dry heat is generally not so; and the prevailing drought has probably exercised a repressive influence rather than otherwise on the development of the epidemic. From St. Petersburg we learn that cholera is perceptibly diminishing in those districts where cases of the disease still continue to be reported. But the disease is still making its appearance in Bessarabia, Podolia and Kursk, and nine cases with three deaths were recently reported in the town of Orel.

CHOLERA IN BRITTANY.

(FROM OUR SPECIAL CORRESPONDENT.)

THOUGH the insanitary condition of the towns and villages of Brittany is notorious and there was every reason to fear that the cholera would spread very rapidly in this province, the epidemic has, at least momentarily, abated. In THE LANCET of April 15th and of May 13th I described how the epidemic had commenced and grown in Brittany—at Lorient, Quimper and other towns. There had been officially reported up to April 9th, 478 cases and 178 deaths as occurring at Lorient and in the twenty-five neighbouring communes. Dr. Thoinot was sent by the Ministry of the Interior to the district. He was invested with extensive powers and took very energetic measures. The epidemic continued, but did not extend in an alarming manner. On April 30th the total number of deaths amounted to 263 and on May 31st to 307. Thus there were only 44 deaths from cholera during the month of May throughout Brittany. Finally, during the present month of June there have been as yet but two deaths from cholera, one at Etel and the other at Vannes. It is therefore probable that the epidemic is over. If this be the case it is interesting and important to note that this epidemic does not seem to have spread beyond the confines of Brittany, though it has lasted during four months. But what is even more remarkable is the fact that the disease commenced in winter when it was very cold and when there was a great deal of rain, and now that it is very hot and dry it seems to have ceased. Can it be that the precautions taken and the active disinfection practised have sufficed to check the epidemic in spite of the bad local sanitary condition and of the approach of summer?

CHOLERA IN THE SOUTH OF FRANCE.

The news from the South of France, however, is serious. This time the cholera seems to have broken out in earnest and to have spread over a very large tract of country. Once more Marseilles is the chief point of interest, and it seems as if cholera were endemic in that town. On May 20th three deaths, apparently due to cholera, took place in the asylum for the insane named after Saint Peter. On the following day two more deaths, due to the same cause, occurred, but after that there were no more cases, and hopes were entertained that the town would escape. On May 20th two deaths from cholera were reported at Alais, a small town of 24,000 inhabitants in the neighbouring Department of the Gard. Since that date there have been deaths every day from cholera at Alais. The total number of deaths from that disease in this town amounted on June 18th to 103. Nine other communes in this department, including the historic town of Nimes, have also had cases of cholera. Adjoining the Department of the Gard is the Department of the Hérault, and here cases of cholera were noted at the commencement of this month. The town and port of Cette, near the Spanish frontier, where there is an important trade in wines, suffered the most, 33 deaths having been already recorded. At Montpellier, where there is the celebrated Faculty of Medicine, there were 6 deaths during the first day or two of this month, but since then only 9 more deaths have been reported. To return to Marseilles and the more easterly departments, cholera, which had been confined to the asylum of St. Peter, spread to the town on June 12th. On that day there were 4 deaths from cholera at Marseilles. Then followed 6 deaths on June 14th, 4 on the 15th, 5 on the 16th and 8 on the 17th, making in all 33 deaths in six days. It is only necessary to refer to the reports already published on the sanitary condition of Marseilles to show that this news is of a nature to create great alarm. In the Department of the Var the town of Toulon, so notorious for its former cholera epidemics, has been again invaded by this disease, the first case occurring on June 3rd, and since then there have been 26 deaths from cholera there. The epidemic has spread to the neighbouring communes of La Seyne and La Garde, and since June 8th there have been five deaths from cholera at Hyères. Finally there are some isolated cases in the Basses-Alpes and the Vaucluse. Altogether there have been in the South of France 13 deaths from cholera during the month of May, and 343 deaths from June 1st to the 17th. The region affected lies on the Mediterranean. There is no evidence, however, to show that cholera came by sea. It seems more probable that the present outbreak is a revival of the epidemic of 1892. At Marseilles, for instance, this is the third epidemic; the first was in October, 1892, and the second in February, 1893. The season of the year and the exceptionally hot weather may account for this recurrence of a disease which was not stamped out and only remained dormant for a short time.

THE HARVEY TERCENTENARY AT GONVILLE AND CAIUS COLLEGE, CAMBRIDGE.

ON Wednesday the 21st inst., the Master and Fellows of Gonville and Caius College, Cambridge, entertained a large and representative gathering of leading representatives of medicine and science to commemorate the tercentenary of the admission of William Harvey as a student of the College. The guests, numbering about 130, assembled in the Combination Room, where they were received by the Master, the Rev. N. M. Ferrers, D.D., F.R.S., and where a number of Harvey relics and works bearing on his great discovery were exhibited. Amongst the most interesting was an excellent autotype reproduction of the lately discovered panel portrait of Harvey. The toast list of the banquet, with a list of the guests, was adorned with a copy of the portrait preserved in the College Hall and a facsimile of the entry made in the College books of the record of Harvey's admission.

The guests included: Sir Andrew Clark, Bart., President of the Royal College of Physicians; Mr. Thomas Bryant, President of the Royal College of Surgeons; Sir James Paget, Bart., F.R.S.; the Right Hon. T. H. Huxley, F.R.S.; Sir Dyce Duckworth, Treasurer of the Royal College of Physicians; Dr. E. Liveing, Registrar of the Royal College of Physicians; Sir George Buchanan, F.R.S., Censor of the Royal College of Physicians; Sir W. O. Priestley, M.D., Censor of the Royal College of Physicians; Dr. W. H. Dickinson, Honorary Fellow of Gonville and Caius, Censor of the Royal College of Physicians; Mr. A. E. Durham, Vice-President of the Royal College of Surgeons; Mr. C. Heath, Vice-President of the Royal College of Surgeons; Sir Joseph Fayrer; Dr. G. H. Darwin; the Mayor of Folkestone (John Banks, Esq.); Professor M. Foster, Secretary of the Royal Society; Professor W. T. Gairdner, Professor of Medicine, Glasgow University; the Right Hon. Sir J. E. Gorst, M.P. for the University; Professor A. H. Green, F.R.S., Honorary Fellow of Gonville and Caius, Professor of Geology, Oxford University Dr. C. J. Hare; Professor Sir G. M. Humphry, F.R.S. Professor R. C. Jebb, Litt.D., M.P. for the University; Professor W. Macewen, Regius Professor of Surgery in the University of Glasgow; Professor J. G. McKendrick, F.R.S., Professor of Physiology, Glasgow University; Mr. Malcolm Morris, President of the Harveian Society of London; Dr. Norman Moore; Dr. J. W. Ogle; Dr. F. W. Pavy, F.R.S.; Dr. G. H. Philipson; Dr. W. S. Playfair; Dr. J. E. Pollock; Dr. P. H. Pye-Smith; Dr. J. Russell Reynolds, F.R.S.; Professor E. A. Schäfer, F.R.S.; Dr. A. A. Simpson, President of the Royal College of Physicians of Edinburgh; Mr. Thos. Smith, F.R.C.S.; Professor T. Grainger Stewart, Professor of Medicine, Edinburgh University; Professor Sir G. G. Stokes, Bart, F.R.S., the Vice-Chancellor of the University; John Peile, Esq., Litt.D.; Sir T. Spencer Wells, Bart, F.R.C.S.; Dr. S. Wilks, F.R.S. and many others. The list included, it will be observed, most of the Harveian orators of the Royal College of Physicians.

The Grace, and the Anthem after dinner, set to music by Mr. C. Wood, B.A., Mus. Bac., were chanted by the College choir, and after the toast of the evening was sung the "Carmen Caianum," the words of which were written by the Rev. B. H. Drury, M.A., President of the College, and the music composed by Mr. Wood. A verse specially adapted to the occasion was introduced into this ode.

After the loyal toasts, which were given by the Master, Sir James Paget proposed "The Memory of William Harvey," gracefully alluding at the outset to the fact that he owed his position there that evening to his relationship to his brother, the late Sir George Paget, who would have naturally occupied it and who had this commemoration keenly at heart. Speaking of Harvey and his work, he declared that his discovery of the circulation was the greatest

discovery in biological science ever made by any one man. The marvel of it was that it was made in the face of general disbelief in the possibility of any new knowledge in physiological doctrine. It was the same with his equally remarkable studies on Generation, establishing the truth, as Professor Virchow lately reminded the Royal Society, of the aphorism, "omne vivum ex ovo." Harvey's patient industry and perseverance enabled him to do these things and to prove that the way to knowledge in biology is by continued observation, experiment and record. John Hunter had said, "Don't think; try," expressing the same thought as to scientific investigation; but both Harvey and Hunter were earnest and profound thinkers. They tried their thoughts, however, testing them in all ways by observation and experiment.

Dr. Clifford Allbutt, Regius Professor of Physic in the University, proposed the toast of "The Guests," first reading a letter from the Rector of the University of Padua in response to an invitation to be present on this occasion, and expressing gratification at Harvey's connexion with that university. Dr. Allbutt next referred to his predecessors in the chair of Physic, mentioning particularly the names of Francis Glisson and George Paget. One of the last letters Sir George Paget wrote was addressed to Dr. Lea, expressing his hope that "Deo volente" he would be present at the tercentenary celebration in which he had evinced such keen interest. Had he lived it would have been fitting that he should have taken a chief part in the proceedings of the day.

Sir Andrew Clark replied to this toast, dwelling on the relations of medicine to science.

Professor Gairdner proposed "The University," and contrasted the two methods pursued by Linacre and Harvey, Linacre basing his medical knowledge upon the works of Hippocrates and Galen, but Harvey looking at *facts*. His hearers might imagine a dialogue between Harvey and Linacre and the totally divergent views they would express on the matter.

The Vice-Chancellor responded.

The Right Hon. T. H. Huxley then gave the toast, "The Master and Fellows," pointing out that that College had continued during these three centuries to extend hospitality to workers in science since the day on which they had shown it to the young yeoman's son, William Harvey. Harvey combined all that was best in antiquity with the modern spirit, as shown in his work on the circulation, and his own more remarkable work, "De Generationibus." He trusted that the "young Harveys" of to-day might not, like their forerunner, have to go abroad to complete their studies.

The Master acknowledged the toast, and after the President of the College had happily replied to the toast and proposed one to the "Scholars and Younger Members," the company rose. The guests, however, did not separate until a late hour.

THE ASSOCIATION OF FELLOWS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE Committee of the Association of Fellows has drawn up and issued the following circular letter to the Fellows of the College:—

From the Association of Fellows of the Royal College of Surgeons of England.

39, Welbeck-street, W., June 17th, 1893.

SIR,—As the approaching election at the College of Surgeons and the celebration of the jubilee of the Fellowship will bring together many of the Fellows of the College, we think the occasion opportune for pointing out the concessions which have been gained for the Fellows from the Council by the agency of the Association of Fellows and the further advantages which the Fellows may reasonably hope to secure by concerted action.

A few years ago, when the Charters and By-laws of the College were under review, the Association drafted a series of recommendations, about half of which were accepted by the Council and carried into effect. These recommendations *inter alia* included the appointment of scrutineers to take the ballot at the election of the Council; the discontinuance of the payment of a fee at election by Members of the Council and by Members of the Court of Examiners; the appointment of a treasurer and the auditing of the accounts by a professional auditor; the holding of an annual general meeting of Fellows and Members at which a report from the Council should be presented and discussed; the suspension of the confirmed minutes in the hall of the College for the inspection of the Fellows and Members; meetings to be held by direction of the President or Council or on a requisition signed by thirty Fellows or Members; reduction of the numbers of signatures required for nomination of candidates for the Council from six to three.

During the last few years the Association has persevered in urging upon the Council the claims of the Fellows to additional privileges, such as the election of the President and regular consultation by the Council on all important matters, as, for instance, where extraordinary expenditure is contemplated or in any proposed change either in the constitution or the external relations of the College. In brief, the Association has aimed at establishing for the Fellows a position akin to that occupied by the Fellows of the Royal College of Physicians. In pursuance of this policy, a deputation from the Association suggested to the Council that a common room should be granted to the Fellows and that an opinion from eminent counsel should be obtained as to the legality, under existing charters, of separate meetings of the Fellows apart from the Members.

The Council has granted to the Fellows and Members a common room, and obtained an opinion from Sir Richard Webster and Mr. Paget, which stated that there was nothing to prevent the Council from calling separate meetings of the Fellows for consultative purposes. As soon as this opinion was given the Council accepted the principle of calling the Fellows together, separately from the Members, and the first meeting of Fellows was held, last year, in the theatre of the College. In the opinion of the Association such meetings should be summoned regularly and should be properly organised on the model of Convocation at the University of London. Casual meetings, without agenda and rules of procedure, give rise to confusion without eliciting the real opinions of the Fellows.

The Association has paved the way for securing for the Fellows that substantive position to which they are as much entitled as the Fellows of the other Colleges in the United Kingdom; and it rests with the Fellows of the College themselves to complete the work which the Association has begun by making their wishes known to the Council and by the election into the Council of candidates who are favourable to the policy here indicated.

We are, Sir, your obedient servants,

GEORGE POLLOCK, President.
TIMOTHY HOLMES, Vice-President.
H. PERCY DUNN, Hon. Sec.

P.S.—Fellows of the College, who do not already belong to the Association, and who are in sympathy with the objects set forth in this circular, are invited to communicate with the Honorary Secretary, Mr. Percy Dunn, 39, Welbeck-street, Cavendish-square, London, W., and to allow themselves to be proposed as members of the Association. The annual subscription is 2s. 6d.

ALABONE v. MORTON.

IT is sometimes said, and perhaps occasionally supposed, that in sternly repressing recourse to the methods of trade advertisement by their members the great medical and surgical colleges are actuated by professional pride and traditionary prejudice. The real reason of the rule and its foundation in the public interest are strikingly illustrated by the facts brought out in the trial of this action before Mr. Justice Wright. The action was brought by Mr. Alabone for an injunction to restrain the defendant, who had acted as his confidential clerk for a period of fifteen years, from continuing to publish a book entitled "The Prevention and Cure of Consumption, by Dr. Morton," the ground of complaint being that the book contained copies or extracts of letters that had been addressed to Mr. Alabone and extracts from his case-books and from press notices of his work, so altered, however, that they appeared, as reproduced, to refer to the defendant and to the defendant's work. The defendant, who possesses no medical or surgical qualification of any sort, appears to have contended that he had, in the capacity of an assistant, shared largely in the conduct of Mr. Alabone's business and presumably that he had thereby become entitled to a share in his master's reputation. The defendant's share in the business carried on by Mr. Alabone was by the plaintiff set down at the very modest *rôle* of a shorthand clerk, and if Mr. Alabone had been practising medicine in the regular way it would have been very surprising to hear it suggested that patients were interviewed and advised in his absence by his amanuensis and that inquiries addressed to him elicited medical advice upon the authority of this same young gentleman. But all this ceases to be wonderful when it is explained that Mr. Alabone, although at one time possessing a registrable medical qualification, saw fit some time back to adopt the methods of the quack. His name was in 1886 removed from the list of Members of the College of Surgeons in consequence of his advertising, and as a further consequence it was also in due course removed from the Medical Register. Mr. Alabone has, however, continued to practise as a medical man, and being absolved from professional responsibility he has not scrupled to advertise and puff his remedy in a manner which has now drawn upon him very severe censure from the lips of the judge who tried his case. Mr. Justice Wright has, indeed, adopted the very unusual course of withholding his judgment for the result of inquiries which he has directed the official solicitor to make, with the assistance, if necessary, of the Director of Public Prosecutions and of some one or more of the medical

societies as to the character of the newspaper opinions which the plaintiff has published for the purposes of advertisement, upon the ground that these "alleged opinions have every appearance of being not independent or real notices, but paid or arranged notices or advertisements," and that in reference to these considerations it was not for the interest of either party to assist justice and there was a danger, therefore, that if he acted upon the evidence before him he might be acting blindfold in a matter where the public interest had to be considered. The nature of the public interest was defined by the learned judge in well-considered language which demands textual quotation. He said that although the case had not at present been carried beyond grave suspicion it had conveyed to his mind such a suspicion that the "plaintiff's business may possibly be what would be a cruel and nefarious system of obtaining money by false pretences from persons who are induced to believe themselves consumptive." He added: "If this is so, the law will not lend its aid to protect a book published as part of such a scheme." Such a statement of the law is entirely satisfactory as a matter of principle, although if the result of it should be to enable two persons instead of one to circulate a book of the kind so strongly denounced by the judge we are not sure that the public will gain much from its application. That, however, will be better discussed when the result of the inquiries directed by Mr. Justice Wright comes to be publicly known; for we have no wish to assume against Mr. Alabone that he will not be able to repel the case of suspicion which has been raised against him, and to discuss the points in question upon the footing of a mere hypothesis would be both inconvenient and unfair.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following is a continuation of the list published in our last issue. The amount announced up to the time of our going to press is about £26,000.

	£	s.	d.
"The Theistic Church," per Rev. Charles Voysey	117	4	1
St. Barnabas, Addison-road	158	16	6
Rosslyn Hill Unitarian Church	112	17	0
St. Mary Aldermary, &c.	93	1	0
St. John the Evangelist, Penge	71	0	0
Emmanuel Church, Maida-vale	30	2	0
Holy Trinity, Anerley	40	11	8
St. Saviour's, Poplar	37	3	2
Maze Hill Congregational Church, Greenwich	23	0	7
Christ Church, North Brixton	67	12	3
Trinity Presbyterian Church, Streatham	21	0	0
Rectory Place Congregational Church, Woolwich	20	16	6
Willesden Presbyterian Church	27	12	6
Monken Hadley Parish Church	30	8	0
St. Bartholomew's, with St. Mathew's, Sydenham	157	5	7
Bloomsbury Baptist Chapel and Mission Hall	47	5	10
St. Mary's, West Kensington	54	0	7
St. Saviour's, Paddington	82	2	6
All Souls', Langham-place	68	1	5
Ewell Parish Church	31	3	2
St. Saviour's, Upper Chelsea	71	3	2
Dartford Parish Church	23	16	9
Union Chapel, Islington	107	0	6
New Court Chapel, Tollington-park	34	16	8
Highbury Presbyterian Church (Park Church)	25	0	0
Upper Holloway Baptist Chapel	28	8	10
All Saint's, Hatcham-park	32	7	6
St. Paul's, Hamlet-road, Upper Norwood	80	12	5
St. Saviour's, Fitzroy-square	36	11	9
St. Paul's, Onslow-square	392	19	8
All Saints', Ennismore-gardens	390	17	5
St. James's, West Hampstead	255	1	11
Christ Church, Hampstead	200	8	4
Trinity Church, Hampstead	100	1	0
St. Marylebone Parish Church	78	12	4
St. James's, Piccadilly	100	18	4
Leyton Parish Church and Mission	27	15	1
St. Simon's, Upper Chelsea	20	0	0
Christ Church, Woburn-square	30	0	5
All Saints', Clapham	31	19	7
Holy Trinity, Greenwich	30	10	0
Portman Chapel, Baker-street	125	0	0
St. Luke's, West Norwood	30	0	0
St. Katharine's Royal College Chapel	26	12	6
St. Paul's, Great Portland-street	67	0	3
St. Peter's, Dulwich Common	50	0	0
St. Mary's, Shortlands	35	10	9
St. Mark's, Reigate	43	12	0
All Saints', West Dulwich	26	0	0
Clapham Parish Church	56	5	4
The Temple Church	166	14	11
St. Peter's, Brockley	106	0	0
St. Stephen's Ealing	63	19	7
St. James the Less, Westminster	31	12	5
Hornsey Parish Church and Chapel of Ease	51	0	10
Christ Church, Lee	26	18	6
Putney Parish Church	22	1	7
St. John the Evangelist, Putney	57	15	6
St. Andrew's, Streatham	37	18	8
St. Paul's, Knightsbridge, with St. Mary's, Graham-street	358	12	11
Holy Trinity, Sydenham	177	4	0
Quebec Chapel	246	12	11
St. Michael's, Paddington	168	13	0
St. Peter's, Cranley-gardens	202	8	5
Royal Military Chapel, Wellington Barracks	59	16	0
Streatham Parish Church	62	10	8
F. (a further)	50	0	0
St. Luke's, Nightingale-lane	51	13	0
St. John the Evangelist's, Angell Town	29	6	5
Clapham Congregational Church	41	12	8
Christ Church, Brondesbury	62	8	7
St. Margaret's, Lee (and Chapel)	58	3	3
St. Paul's, Camden-square	62	11	4
St. Mary's, Kilburn	87	18	1
Horbury Congregational Church, Notting-hill	23	4	0
St. Peter's, Streatham	61	8	10
All Saint's, Margaret-street	57	7	9
Christ Church, Highbury	39	17	10
Holy Trinity, Eltham	37	11	11
St. George's, Tufnell-park	56	2	8
West Ham Parish Church	25	3	5
Camden-road Presbyterian Church	26	11	2
St. Stephen the Martyr's, Portland Town	32	14	1
Berkeley Chapel, Mayfair	20	0	0
All Saints, Blackheath	65	1	2
Grosvenor Chapel, South Audley-street	51	6	6
Church of the Ascension, Blackheath	35	11	6
Box outside the Mansion House	14	4	0
St. George's, Hanover-square	114	12	0
St. Stephen's, South Dulwich	133	17	10
St. Mark's, Hamilton-terrace	260	6	0
St. Peter's, Vere-street	343	19	9
St. Alban's, Streatham-park	105	0	6
Holy Trinity, Chelsea	240	3	6
Blackheath Congregational Church	111	0	0
Christ Church, Mayfair	126	18	0
St. Mildred's, Lee	29	9	1
St. Paul's, Herne hill	46	2	10
St. Paul's, Greenwich	25	7	6
St. Mark's, Regent's-park	28	12	6
Allen-street Congregational Chapel, Kensington	77	0	0
St. Andrew's and Mission Chapels, Fulham	55	16	5
Camden Church, Camberwell	57	12	3
St. Matthew's, Upper Clapton	63	18	4
Regent-square Presbyterian Church	81	18	8
All Saints', Camberwell	30	2	6
St. Augustine's, Kilburn	57	15	2
Highbury Quadrant Congregational Church	55	7	6
Christ Church, East Greenwich	46	1	7
Crouch Hill Presbyterian Church	45	7	6
Chelsea Old Church	20	0	0
St. John's, Upper Lewisham-road	49	2	1
Clapton-park Congregational Church	35	12	8
St. Thomas's, Stamford-hill	26	4	5
St. Mary's Parish Church, Lewisham	52	13	4
St. Andrew's, Leytonstone	40	4	0
St. Stephen's, Wandsworth	48	5	6
St. Barnabas, Pimlico	29	16	0
Regent's-park Baptist Chapel	36	1	0
Highgate Presbyterian Church	22	6	3
Christ Church, Lancaster Gate	974	10	0
Heath-street Baptist Chapel, Hampstead	46	1	7
St. Mary's, Plaistow (Kent)	32	2	3
Christ Church, Chislehurst	51	16	0
St. Mark's, Kennington	46	19	7
Hendon Parish Church	43	8	3
St. Philip's, Kensington	96	8	4
St. Nicholas's, Tooting Graveney	25	12	6
St. Saviour's, South Hampstead	28	5	9
Christ Church, Westminster-road	34	0	11
Christ Church, Gypsy Hill	68	1	9
St. Mark's, North Audley-street	88	16	9
St. John's, Downshire-hill	46	19	9
All Saints', Putney Common	27	10	0
Denbeigh-road Wesleyan Chapel, Bayswater	23	9	3
St. Martin-in-the-Fields	126	15	2
St. James's, Clapham Park	135	0	3
Holy Trinity, Paddington	123	18	6
St. Gabriel and All Saints, Pimlico	91	1	9
St. Paul's, Clapham	52	0	0
Brixton Congregational Church	56	10	0
St. Stephen's, Clapham-park	32	10	4
Brixton-hill Wesleyan Circuit	79	18	1
St. Mary's, Hornsey-rise	40	0	0
St. Mary Magdalen, Paddington	47	15	0
All Saint's, Child's Hill	20	1	6
Christ Church, Forest hill	48	3	6
St. Lawrence's, Catford	25	8	0
Holy Trinity, Knightsbridge	53	2	0
St. Peter-upon-Cornhill	23	15	10
St. Anne's, Soho	45	0	1
St. Mary's, Boltons	54	0	0
St. Columba, Pont-street	90	15	0
St. Andrew's, Wells-street	124	1	6

MEDICAL MAGISTRATE.—Dr. L. G. Hunt of Sheffield has been placed on the Commission of the Peace for that city.

LIGHT AND FREQUENCY PHENOMENA.

IN a very interesting lecture on Light and other High Frequency Phenomena delivered at the Franklin Institute, Philadelphia, M. Nikola Tesla brought before the notice of his hearers a certain class of light effects and a number of phenomena observed in pursuing the study of these effects. The action of the eye formed one of the many interesting subjects discussed by this able investigator. It may be taken as a fact, he said, which the theory of the action of the eye implies, that for each external impression—that is, for each image produced upon the retina—the terminations of the visual nerves concerned in the conveyance of impressions to the mind must be under a peculiar stress or in a vibratory state. It does not seem improbable that when by the power of thought an image is evoked a distinct reflex action, no matter how weak, is exerted upon certain ends of the visual nerves and through them upon the retina. Will it ever be within human power to analyse the condition of the retina disturbed by thought or reflex action, by the help of some optical or other means of such sensitiveness, that a clear idea of its state might be gained at any time? If this were possible, then the problem of reading a person's thoughts with precision as of tracing the characters of an open book might be much easier of solution than many problems belonging to the domain of positive physical science in the solution of which many, if not the majority of, scientific men believe. Professor Helmholtz has already shown that the fundi of the eyes are themselves luminous, and he was able to see in total darkness the movement of his arm by the light of his own eyes. This is one of the most remarkable experiments recorded in the history of science, and probably only a few men could satisfactorily repeat it, for it is very likely that the luminosity of the eye is associated with unusual activity of the brain and great imaginative power. "It is, as it were," said M. Tesla, "fluorescence of brain action." Another curious fact bearing on this subject is that when a sudden idea or image presents itself to the intellect a distinct and sometimes painful sensation of luminosity is produced in the eye observable even in broad daylight. He explained that, according to that idea, now accepted by the majority of scientific men as a positive result of theoretical and experimental investigation, the various forms of manifestation of energy, which were generally designated "electric," are energy manifestations of the same nature as those of radiant heat and light. The phenomena of light and heat and others besides may therefore be called electrical phenomena, and thus it is that electrical science has become the mother science of all and its study all-important. The day when we shall know exactly what electricity is will chronicle an event probably greater and of more moment than any other recorded in the history of the human race. The apparatus employed by M. Tesla and the method of obtaining high potential and high frequency currents—now indelibly associated with his name—were described, and after showing that the human body could be traversed by a powerful electric current, vibrating at about the rate of one million times per second, he proceeded to explain why no pain is felt in the body and no injurious effect noted. It is, he said, because if everywhere a current be imagined to flow through the body the direction of its flow would be at right angles to the surface, hence the body of the experimenter offers an enormous section to the current and the density is very small, save in the arm, perhaps, where it might be considerable. A direct or low frequency alternating current is fatal principally because its distribution through the body is not uniform, as it must divide itself in minute streamlets of great density, whereby some organs are vitally injured. Space forbids us to give even a passing notice of the many other interesting points dealt with in the lecture, such, for instance, as electrical resonance, incandescence of gases, phosphorescence and other similarly brilliant phenomena. Extracts of the lecture are contained in a recent issue of *Nature*.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Halifax Urban Sanitary District.—The population of this district in 1892 was estimated at 84,097. The general death-rate was 19·4 per 1000, as against 20·7 for the thirty-two large towns. The infantile mortality was 163 per 1000 births. There were 19 deaths from small-pox in the borough during last year, and we are promised at a subsequent date a detailed account of the outbreak. The preliminary notice that the present report contains shows that in this case, as in so many others we have noticed, Batley was the source of infection. Up to Dec. 31st 176 persons were admitted into the hospital and an analysis of the cases yields a death-rate amongst the vaccinated of 2·06 per cent., as against one of 45·5 per cent. amongst the unvaccinated. In the final report we shall doubtless have a minute analysis of the figures as regards age, vaccination, revaccination &c. To accommodate the increasing number of cases large hospital tents were erected, but as the winter approached these had to be replaced by more substantial structures. The adjoining fever hospital was used for the isolation of persons who had been in contact with small-pox; and a Goddard and Massey's apparatus was erected for the disinfection of infected articles. The sanitary authority, through the medium of the local press, did what they could to advise the people to resort to vaccination; but, although this was partially successful, we regret to hear that "the public vaccinator received little encouragement from the board of guardians." A house-to-house visitation was instituted in search of stray cases of small-pox and some were brought to light. The report before us, in which are also embodied those of the public analyst and inspector of nuisances, shows evidence of thorough work and contains some very complete statistical tables.

Ripley Urban Sanitary District.—An extensive outbreak of measles during 1892 did much to raise the death-rates of the district to a very high figure. For a small urban population a general death-rate of 23·48, an infantile mortality of 215 and a zymotic death-rate of 6·15 are indeed high. Small-pox was introduced into the district from Batley, but owing to Mr. Gaylor's decisive action in at once converting the house in which the patient fell ill into a temporary hospital, and to the fact that there were practically no unvaccinated children in the district, the disease did not spread beyond the first case. There were no less than 30 deaths from measles during the year, and of these 26 were those of children under four years of age. Mr. Gaylor is an advocate for the notification of measles and thinks that erysipelas might well be omitted from the list of notifiable diseases. He states that he has never yet seen any distinct sanitary advantage from the notification of any cases of this disease with which he has been brought into contact. It is to be regretted that the sanitary authority have not during recent years printed the annual report of the medical officer of health; but this year the local press has reproduced it verbatim, so that all those interested in the public health of the district will have an opportunity of perusing it.

Staines Rural Sanitary District.—As Mr. Morris was not appointed medical officer of health for this district till August, 1892, he is only able to furnish a report for the last four months of the year, although he gives the birth-rate and death-rate for the whole. Feltham has suffered severely from scarlet fever, and Mr. Morris is inclined to explain this by the direct connexion of this place with the metropolis. Apparently children were discovered desquamating from scarlet fever, and the mothers, when questioned, admitted that their children had recently suffered from sore-throat. In illustration of the efficiency of the disinfection which was carried out, we are told that in no instance was there a recurrence of the disease in the same house. We are a little sceptical as to whether this fact justifies the conclusion drawn from it, as much would depend upon the length of time to which the inmates of the house were exposed prior to the disinfection of the premises. At any rate, we wish that the report had given a short account of the disinfection process as regards clothes &c. There were two deaths from diphtheria in a gipsy van and Mr. Morris points out the necessity for better regulation

of gipsy encampments. He remarks that "the constant saturation of the surrounding soil with all kinds of filth cannot but be the most favourable factor in the production of diphtheria." With regard to cholera precautions, it is advised that the district be divided into sections; that sites be obtained and that iron buildings or tents be erected. As Mr. Morris points out, a central hospital would be useless in a rural district for dealing with cases of cholera, since the patients are frequently so collapsed as to absolutely preclude a journey of any length in an ambulance.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6318 births and 3842 deaths were registered during the week ending June 17th. The annual rate of mortality in these towns, which had increased from 17·5 to 18·2 per 1000 in the preceding three weeks, further rose last week to 19·4. In London the rate was 19·1 per 1000, whilst it averaged 19·6 in the thirty-two provincial towns. The lowest rates in these towns were 10·3 in Portsmouth, 12·1 in Nottingham, 13·0 in Bristol, 13·7 in Brighton and 14·6 in Newcastle-on-Tyne; the highest rates were 25·5 in Preston, 26·0 in Cardiff, 27·6 in Plymouth, 28·9 in Liverpool and 32·2 in Swansea. The 3842 deaths included 676 which were referred to the principal zymotic diseases, against 415 and 473 in the preceding two weeks; of these 250 resulted from diarrhœa, 143 from measles, 89 from whooping-cough, 81 from diphtheria, 74 from scarlet fever, 20 from "fever" (principally enteric) and 19 from small-pox. The lowest death-rates from these zymotic diseases were recorded in Wolverhampton, Oldham, Huddersfield, Halifax and Brighton, and the highest rates in Leicester, Liverpool, Burnley, Birkenhead and Preston. The greatest mortality from measles occurred in Cardiff, Portsmouth, Manchester, Gateshead, Blackburn, Preston and Plymouth; from scarlet fever in Burnley; from whooping-cough in Norwich, Derby and Gateshead; and from diarrhœa in Swansea, Blackburn, Burnley, Salford, Liverpool, Preston, Leicester and Birkenhead. The mortality from "fever" showed no marked excess in any of the large towns. The 81 deaths from diphtheria included 62 in London, 2 in Croydon, 2 in Bristol, 2 in Manchester and 2 in Leeds. Six fatal cases of small-pox were registered in London, 2 in West Ham, 2 in Birmingham, 2 in Manchester and 1 each in Nottingham, Derby, Salford, Halifax, Bradford, Sheffield and Hull; 490 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, against 560, 551 and 495 at the end of the preceding three weeks; 105 cases were admitted during the week, against 111, 110 and 80 in the preceding three weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2681, against 2493, 2592 and 2639 on the preceding three Saturdays; 264 new cases were admitted during the week, against 301, 313 and 290 in the preceding three weeks. The deaths referred to diseases of the respiratory organs in London, which had been 290 and 233 in the preceding two weeks, were 234 last week, and were 9 below the corrected average. The causes of 46, or 1·2 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Nottingham, Leeds, Sunderland, Newcastle-upon-Tyne and in eleven other smaller towns; the largest proportions of uncertified deaths were registered in Salford, Halifax and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19·2 and 21·1 per 1000 in the preceding two weeks, declined again to 20·2 during the week ending June 17th, but exceeded by 0·8 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 10·3 in Perth and 14·3 in Paisley to 20·7 in Greenock and 23·9 in Glasgow. The 570 deaths in these towns included 46 which were referred to measles, 21 to whooping-cough, 12 to diarrhœa, 7 to "fever," 6 to diphtheria, 6 to scarlet fever and not one to small-pox. In all, 98 deaths resulted from these principal zymotic diseases, against 92 and 107 in the preceding two weeks. These 570 deaths were equal to an annual rate of 3·5 per 1000, which slightly exceeded the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 45 and 46 in the preceding two weeks, were again 46 last week, of which 31 occurred in Glasgow and 10 in Greenock. The deaths referred to whooping-cough, which had been 21 and 26 in the preceding two weeks, declined again to 21 last week and included 17 in Glasgow and 3 in Edinburgh. The 7 fatal cases of fever showed a further increase upon those recorded in recent weeks, and included 3 in Glasgow and 2 in Dundee. The deaths from scarlet fever, which had been 6 and 7 in the preceding two weeks, were 6 last week, of which 4 occurred in Glasgow and 2 in Leith. The 6 fatal cases of diphtheria were within one of the number in the preceding week; and included 4 in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 88 and 107 in the preceding two weeks, declined again last week to 98, but slightly exceeded the number in the corresponding week of last year. The causes of 52, or nearly 11 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 27·3 and 23·7 per 1000 in the preceding two weeks, rose again to 28·2 during the week ending June 17th. During the past eleven weeks of the current quarter the death-rate in the city averaged 25·8 per 1000, against 18·9 in London and 17·6 in Edinburgh. The 189 deaths registered in Dublin during the week under notice showed an increase of 30 upon the number in the preceding week and included 21 which resulted from the principal zymotic diseases, against numbers declining from 15 to 9 in the preceding three weeks. Of these, 9 were referred to whooping-cough, 4 to measles, 3 to "fever," 3 to diarrhœa, 2 to scarlet fever and not one either to small-pox or diphtheria. These 21 deaths were equal to an annual rate of 3·1 per 1000, the zymotic death-rate during the same period being 3·7 in London and 2·0 in Edinburgh. The fatal cases of whooping-cough, which had been 2 in each of the preceding two weeks, rose to 9 last week, a higher number than in any week during the current year. The deaths from measles, which had been 4 and 5 in the preceding two weeks, were 4 last week. The deaths referred to different forms of "fever," which had been 3 and 2 in the preceding two weeks, rose again to 3 last week. The 189 deaths registered in Dublin last week included 28 of infants under one year of age and 39 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons slightly exceeded those recorded in recent weeks. Seven inquest cases and 3 deaths from violence were registered; and 59, or nearly a third, of the deaths occurred in public institutions. The causes of 16, or more than 8 per cent., of the deaths registered in the city last week were not certified.

THE SERVICES.

MOVEMENTS IN THE MEDICAL STAFF.

SURGEON-LIEUTENANT-COLONEL BLENNERHASSETT has re-embarked for Bengal on return from leave. Brigade-Surgeon-Lieutenant-Colonel Maxham has arrived from Barbadoes on completion of a tour of service and has been posted to Gosport. Surgeon-Lieutenant-Colonel Williamson has been transferred from the Southern to the South-Eastern District. Surgeon-Captain Hilliard has arrived in England on completion of a tour of service in Jamaica. Surgeon-Major Michael has been granted three months' leave from Egypt. Surgeon-Major Cogan, retired pay, has taken over the Medical Charge at Ipswich. Surgeon-Captain Baylor has been transferred from Cork to Limerick. Surgeon-Captain Connor has reported his arrival from Burmah on leave.

ARMY MEDICAL STAFF.

Surgeon-Lieutenant-Colonel Robert de la C. Corbett, M.D., F.R.C.S.I., D.S.O., is promoted to Brigade-Surgeon-Lieutenant-Colonel.

INDIA AND THE INDIAN MEDICAL SERVICE.

The services of the undermentioned officers are placed temporarily at the disposal of the Government of Bengal:—Surgeon-Captain F. C. Clarkson, Surgeon-Captain C. C. Cassidy and Surgeon-Captain A. W. T. Buist-Sparks, M.B.

The services of Surgeon-Captain B. K. Basu, M.D., Bengal Establishment, are replaced at the disposal of the Military Department. Surgeon-Captain H. Smith, M.D., I.M.S., Bengal Establishment, whose services have been placed at the disposal of the Public Works Department, is appointed Medical Officer of the Mushkaf-Bolan State Railway. Surgeon-Major H. W. Stevenson is reappointed Superintendent of Mahableshwar for a further term of one year. Mr. J. L. Hendley, Officiating Civil Medical Officer, Mymensingh, is appointed to be Civil Medical Officer of the Serampore subdivision of the district of Hooghly.

NAVAL MEDICAL SERVICE.

The following appointments have been announced:—Deputy-Inspector-Generals: Henry Macdonnell to Malta Hospital and Thomas H. Knott to Haslar Hospital. Surgeons: Alexander F. Harper to the *Adventure* and Elrington F. S. M'Kay to the *Pioneer* (both undated). George F. Dean to the *Mosquito*, John Dowson to the *Herald* and Edwd. B. Townshend to Haslar Hospital (all dated June 21st, 1893).

VOLUNTEER CORPS.

Rifle: 1st Volunteer Battalion, the King's (Liverpool Regiment), William Smyth Crawford, Gent., to be Surgeon-Lieutenant. — 2nd Volunteer Battalion, the Princess of Wales's Own (Yorkshire Regiment): Surgeon-Major R. B. Low resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the Battalion on his retirement.—2nd Volunteer Battalion, the South Wales Borderers: Surgeon-Lieutenant P. Smith is appointed Second Lieutenant.—1st Volunteer Battalion, the Essex Regiment: Surgeon-Major A. Wright resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the Battalion on his retirement.—1st Volunteer Battalion, the Queen's Own (Royal West Kent Regiment): Surgeon-Captain A. E. Marsack resigns his commission.

Correspondence.

"Audi alteram partem."

"THE MEDICO-LEGAL SYSTEM OF SCOTLAND."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of June 17th there is a leading article on medico-legal post-mortem examinations as carried out in Scotland in which the following suggestion is made: "The Crown should engage a man known to be of good standing in his profession and put into that man's hands all post-mortem examinations in the district." It is explained that this would give the individual the experience necessary to make his opinion really valuable both as a pathologist and a witness. Further on you ask, "Is it ever right to entrust to the hands of a single medical man a post-mortem examination on which, perhaps, the life of a human being may depend?" and evidently anticipate a negative answer. You will probably be quite willing to allow that the same principles should apply to England, and indeed universally. There is another reason why the general practitioner, the surgeon and the accoucheur should be relieved from doing post-mortem examinations—namely, the danger of their carrying septic infection to their patients. How these improvements can be carried out is a pressing question, which could be aided by free discussion in the columns of THE LANCET, and will no doubt receive the earnest attention you give to all matters affecting the profession. If the medical officers of health are debarred from private practice, such duties could be handed over to them with every confidence, the right of the private practitioners concerned to proper notice of the time and place of such post-mortem examinations and to be present thereat being provided for in any law or regulation that is made. It has further been suggested that the medical officers of health should superintend the registration and certification of deaths and should verify them; that they should inquire into the cause of death in all uncertified cases and advise the coroner on the action to be taken, and that they should take charge of the infectious hospitals in their district. Such duties would probably have to be divided amongst different individuals in large and populous places, yet in smaller districts could be carried out by the same person. But these details must come after the principles are settled. Whatever help you give in the matter will, I believe, meet with the hearty support and thanks of the profession—at all events, of those who wish to see better arrangements made in these matters for the public good and who are willing to forego a few fees for post-mortem examinations to that end.

I am, Sirs, yours truly,

Twickenham, June 20th, 1893. H. HOWARD MURPHY, M.D.

To the Editors of THE LANCET.

SIRS,—Every medical man must agree with you when you say in your leading article in THE LANCET of June 17th that there is "no place whatever for a medical report made as the result of looking at a dead body for a minute or two and asking one or two questions of a policeman." I can testify to having been asked several times both by the registrar and officials from the procurator-fiscal to do so and been obliged to say that I could not possibly give any opinion in the circumstances. Being pressed on one occasion to say whether I suspected death might have resulted from other than natural causes, I answered that I had no ground for forming an opinion one way or the other. I have never forgotten the horror with which an Englishwoman once exclaimed, when I advised her to go into one of our infirmaries, "No, indeed. Why one might be dead and buried in twenty-four hours in this country and nobody a bit the wiser. No crowner's 'quest, nor nothin'!" The idea of an Englishwoman feeling that she was as much in a foreign country in Scotland as if she had been in the heart of Africa was to me an exceedingly curious one. Surely it ought to be remembered that the value of post-mortem examinations is not alone to be estimated by the results obtained by them in particular cases, but also by what may be prevented by them and which can never be estimated.

I am, Sirs, yours truly,

June 20th, 1893. ROBERT KIRK, M.D.

"DEATH CERTIFICATION."

To the Editors of THE LANCET.

SIRS,—Dr. Ogle, in his evidence before the Special Committee of the House of Commons, stated that "they had improved the precautions with regard to the issue of certificate forms; they numbered every book and every certificate in the book" &c. It might be imagined from this that the improvement was initiated by the officials of the Registrar-General's department. Such is not the case. I suggested it and brought the matter before Dr. J. G. Glover, who kindly proposed a resolution embodying my suggestion before the General Medical Council, which was passed unanimously and forwarded as a recommendation to the Registrar-General. Thanks are due to Dr. Glover as a direct representative for his alway-courtesy in listening to, and aiding in, any suggested measure for the reformation of abuses.

I am, Sirs, yours truly,

Longridge-road, S.W. A. GEORGE BATEMAN, M.B.

PHYSICAL EXERCISES AND FENCING.

To the Editors of THE LANCET.

SIRS,—Your reference to Captain Hutton's lecture in your last issue will doubtless bring the subject of fencing prominently before the medical world. The advantages and disadvantages of teaching this important exercise to growing boys are worthy of our attentive consideration. In the course of a long experience I cannot remember to have ever seen any bad results from the "unbearable mental and nervous strain" mentioned in your article. I have witnessed in others, and have myself suffered from, profound physical exhaustion after having engaged in too many bouts in one afternoon, but never from any cerebral symptoms. There can be no doubt that if anyone wishes to excel in fencing he should commence at an early age. I think fifteen is a good time of life for a beginning. At this period the individual has more command over the co-ordination of his muscles than perhaps at any other time of his life. The brain then receives

impressions and gives its orders to the nervous system with more rapidity and accuracy than can be depended upon in adult life. And as long as fencing is then indulged in moderation it must be of enormous value to the growing youth. With regard to the lateral curvature produced by fencing, it is certain that most fencers have it in a marked degree. But I am not aware that any evil has ever resulted from its presence. It could be easily prevented by fencing with the left hand as well as the right.

My object in addressing you is to point out the extreme appropriateness of fencing as an exercise for Londoners. Fencing can be performed in any weather by daylight or gaslight. At any gymnasium worthy of the name an adversary can always be depended upon, which cannot be said of racquets or tennis. Fencing is a very inexpensive hobby. It causes less strain on the system than boxing or gymnastics; it is an exceedingly pleasant pastime; its dangers are but few; it takes up but little time in the course of the day, thus differing widely from cricket or even boating; it may be indulged in by the young or the very old, but in this last case it must be taken up with great care, more especially if it has been discontinued for any length of time, or serious consequences, such as aneurysm, may result.

Free exercises, light dumb-belling and running assist fencing. Gymnastics, heavy dumb-belling and singlestick are its enemies.—I am, Sirs, yours truly,

HENRY SUTHERLAND, M.D.

Richmond-terrace, Whitehall, June 19th, 1893.

To the Editors of THE LANCET.

SIRS,—I have to thank you for your courtesy in sending me the number of THE LANCET containing the article on "Physical Exercises and Fencing," and had it not been for that I should have felt, mere layman as I am, somewhat diffident about addressing the Editors of one of our greatest scientific papers.

Lieutenant-Colonel Fox stated that fencing produces "at times an almost unbearable mental and nervous strain," and he went so far as to quote as one of its victims the famous "M. Merignac of Paris"; what that great master will have to say on the subject remains to be seen. The colonel has based his somewhat dogmatic assertion on the very mildly expressed opinion of an anonymous "doctor," who merely states that "the fatigue attendant on fencing is less a muscular fatigue than a nervous one." Practical swordsmen, I think, mostly differ from him; Lord Methuen, one of the most brilliant in the country, certainly does, and it would have been better if the writer of your article had glanced at his lordship's remarks at the end of the discussion which followed my lecture. I myself have been connected (not professionally, of course) with fencing from a very early age; it has fallen to my lot to organise and superintend the fencing of three regiments, in the course of which I had to do a great deal of teaching myself, and since I left the service I have been connected with a Volunteer regiment which has attached to it a cadet corps of boys varying from fourteen to eighteen years of age; many of these boys fence and some of them are accomplished players with "verie manie weapons," both ancient and modern, but in the course of my experience, ranging over forty-one years, I have never come across a case, old or young, in which the practice of fencing produced either nervous strain or deformity.

The writer of your article says that "there is probably a certain amount of truth" in Colonel Fox's assertion; this is mere surmise and it would have been more to the point had that gentleman quoted a case or two in corroboration thereof. I, on the other hand, can quote an instance where severe nervousness, far from being superinduced by learning to fence, was actually cured by it, and that instance is—myself! When I was at school, between the ages of eleven and fourteen, there was (unknown to the masters, of course) a considerable deal of bullying. I came in for rather more than my fair share of it, and this caused me to become extremely nervous; when I was thirteen I was put, at my own wish, to learn fencing under that splendid master Henry Angelo. I took an immense liking to it and never if I could help it missed a lesson or a bout; the result was that my skill at arms increased very rapidly; with that increased also my self-confidence, and in proportion the nervousness decreased until it disappeared altogether. So far as I can see, the only chance there can be of a boy being rendered nervous by fencing-room work is that—I hope a very remote one—of his being put under a bad-tempered brute of a teacher, who, instead of leading him on, might knock him about; in such a case, however, the nervousness would not be due to the art of fencing, but to the individual ill-treatment.

I am, Sirs, yours faithfully,

Army and Navy Club, June 19th, 1893. ALFRED HUTTON.

VOLUNTEER INFANTRY BRIGADE BEARER COMPANIES.

To the Editors of THE LANCET.

SIRS,—I read with interest Surgeon-Captain Lawless's letter in THE LANCET of June 10th. I think he hardly grasps the situation, as it is money, not men, that is wanted; men there are in plenty, money there is none. In 1890 there was a meeting of brigade surgeons, who went carefully into the question of brigade bearer companies, drew up a scheme, and a deputation consisting of myself and Brigade-Surgeons Milligan and Danford Thomas attended the Director-General and laid the following, amongst others, before him—(1) That in each brigade sixty-one men should be allotted as a bearer company, and that the senior medical officer should have the command and draw the efficiency grant; (2) that class-firing should not be compulsory for the efficiency grant; (3) that each volunteer bearer company should be equipped similarly to a bearer company on active service. In the end we received a notice that volunteer bearer companies were to be efficient volunteers first and stretcher bearers secondly. So I fail to see what advantage will be gained in getting St. John's men unless a grant is obtained to clothe and equip them. With regard to the remarks about regimental stretcher bearers, they are not as regulation (the Volunteer Regulations 1892, p. 182 A), which distinctly says that two men per company are to be stretcher bearers and in the Welsh Border Brigade I always get in brigade orders, "each regiment in brigade will furnish two men per company, who will be under the senior medical officer for all parades whilst in camp," and I get them, and in 1891, when the brigade bearer company went with the regiment to Aldershot, I utilised the regimental stretcher-bearers as a bearer company, and on all occasions when I have had the brigade bearer company in camp I have worked the regimental stretcher-bearers as a second bearer company, for it is only in brigade camps that regimental stretcher-bearers can get instruction as a company. No company officer can refuse the senior medical officer's demand for two per company. I would gladly join any scheme that would get in each brigade a bearer company entirely under the command of the senior medical officer. I have one in my brigade, but it is costly to start and troublesome to keep efficient, and the only true solution of the difficulty is to have the bearer company in each brigade attached to a company at headquarters, the men to be under the senior medical officer.

I am, Sirs, yours truly,

PETER GILES,

June 20th, 1893. Brigade-Surgeon-Lieutenant-Colonel W.B.B.

AN ANACHRONISM: SHOULD FULLY QUALIFIED MEDICAL PRACTITIONERS BE STILL DESIGNATED "APOTHECARIES?"

To the Editors of THE LANCET.

SIRS,—I send herewith copies of three letters which I have received from Mr. J. R. Upton, clerk to the Society of Apothecaries, in reply to my inquiries as to what steps, if any, the Society was taking to obtain for its new licentiates a title more in accordance with their qualification. These replies cannot, I think, be considered very satisfactory. The title of "apothecary" is undoubtedly obsolete as signifying a medical practitioner, and certainly does not, and never did, convey to the public mind the idea of a practitioner of surgery. This being so, and the public rarely, if ever, consulting the Medical Register (less frequently the prefatory note referred to in your issue of the 10th inst.), I would call upon all the new licentiates, and invoke your powerful assistance, to bring pressure to bear on the Society to make an earnest attempt to get this matter put right.

It is, no doubt, matter for satisfaction that the diploma is recognised for appointments in the public medical services, but the greater number of us are not contemplating entering these services. The Society's diploma states plainly that the holder is a person qualified for the efficient practice of

medicine, surgery and midwifery; all that is wanted is a title which will enable the public to understand the nature and extent of the qualification. Surely this is not an unreasonable request and should not be very difficult to get. Everybody knows the meaning of M.R.C.S. and L.R.C.P., and these titles convey a proper idea of the holder's qualification to practise surgery and medicine, but how many, even of the educated members of the community, know what L.S.A. means? And even if the title be written in full the possessor is regarded as a dispenser of medicines—"only an apothecary."

I am, Sirs, yours truly,

June 20th, 1893. R. W.

[COPY.]

14, Austin Friars, London, E.C., 6th January, 1892.

DEAR SIR,—In reply to your letter on the subject of the title of a L.S.A. whose diploma is dated subsequently to the 30th June, 1887, I beg to inform you that having regard to the recent decision of the High Court in the matter of the Queen *v.* the Justices of Aston, and the general unsatisfactory position of the whole question of medical titles, it is the intention of the Society of Apothecaries to approach the General Medical Council at an early date with a view of having the matter placed on a firm and intelligible basis.

Yours faithfully,

JAMES R. UPTON,
Clerk to the Society of Apothecaries.

[COPY.]

Society of Apothecaries, Blackfriars, London, E.C., 22nd August, 1892.

DEAR SIR,—Until the decision of the Courts on the question at issue between the Royal College of Physicians and the Medical Council as to what the title L.R.C.P. confers on its holder, it would be premature for the Society to reopen the matter as to the title of its own Licentiates.

Yours truly,

JAMES R. UPTON,
Clerk to the Society.

[COPY.]

14, Austin Friars, London, E.C., May 31st, 1893.

DEAR SIR,—I beg to return my letters of the 6th January and 22nd August, 1892, which you sent to me.

The question of medical titles has not, I believe, been yet considered by the Medical Council.

With regard to the diploma of L.S.A., the fact that it now confers the triple qualification to practise medicine, surgery and midwifery is so generally known that the society is of opinion that its alteration (apart from the difficulty of obtaining an Act of Parliament) becomes a question of doubtful expediency.

The diploma is recognised as qualifying for appointments in the army, navy and Indian Government medical services, and is also recognised by municipal and other public bodies.

Yours truly,

JAMES R. UPTON,
Clerk to the Society of Apothecaries.

"MEDICAL AID ASSOCIATIONS."

To the Editors of THE LANCET.

SIRS,—The medical profession appears to be suffering acutely at present from the disease of excessive competition, and it is obvious that the cause of this is that we have too many medical men for our population. The symptoms force themselves continually on our notice, for we hear constantly of medical men being obliged to work very hard indeed for the utterly inadequate salaries given by boards of guardians, factory owners and by other medical men, not to speak of the disputed case of medical aid associations. Other bodies which employ "doctors" show signs of an inclination to lower their salaries, the Guildford sanitary authority leading the way with the magnificent offer of £200 a year for a medical officer of health, who will not be allowed to practise privately. The value of the services of medical men appears to be decreasing.

Having thus briefly discussed the etiology and symptomatology of our disease I will proceed to suggest a line of treatment, and I beg to remind some of your correspondents of what they appear to have forgotten—namely, that our first object should be to remove the cause, and that the treatment of symptoms should be regarded as secondary to that of the disease itself. The General Medical Council, as I pointed out some months ago, cannot treat the particular symptoms to which attention has been of late so forcibly directed, but it can remove the cause of the disease. The portals of the profession are under its control and were it to make the entrance so difficult as to exclude the huge crowd of half-educated and dull lads who now elbow us and degrade us in ever-increasing numbers, it would have the support and sympathy of the nation, which would recognise the action as an attempt to produce a better article, whilst the attack on medical aid associations was considered to be an effort to get a higher price. Why should not the Council request the licensing bodies to raise their standard of literary and professional knowledge so as to shut out half or two-thirds of such men as those now qualifying? Is it not clear that if our standards remain as of old whilst those required for arts degrees and for entrance into all other professions are raised the majority of the dull and lazy youths intended for professional life will come to us, swelling our numbers and making still more extreme the competition in our lower ranks, whilst the really clever and industrious (always few) will turn to some employment for obtaining which energy and intelligence are required? The general public would like to see the standand raised, for it would mean that they would have better advice, for which they would be willing to pay. The outflow from the profession being unchanged, whilst the inflow would be much diminished and improved in quality, we should have fewer and better medical men, more highly respected and more highly paid. Instead of thinking of forming new universities with low standards we should try to force up the standards of those we have to something like the level of London, and should insist on a corresponding change in the other licensing bodies. If they resisted, would it really be a great loss if the examinations of a dozen of them ceased to be "deemed to be qualifying examinations for the purpose of registration under the Medical Acts?" I cannot think so.

Contrast this broad and easy plan of bettering ourselves with that suggested by some of your correspondents, who seem to propose to use boycotting and conspiracy to force medical men to abstain from doing that which they have a legal right to do—namely, to accept certain employment—and thus to make the boycotted employers offer better terms. The advantages of the simpler and more dignified method of treatment are so obvious that I cannot avoid concluding that those who propose the other do not wish to remove the disease, but to suppress one symptom in order to exaggerate others from which they expect to derive advantage. I should be sincerely glad to think that they wished to improve the position of medical men without capital, but I see clearly that their proposed action can, if successful, only result in preventing others from competing with them for our services.

In conclusion, I wish to protest against the language used towards the General Medical Council by those against whom it has recently decided. It is not consistent with the respect due to such a body to speak of their opinions as "lame," "impotent," "illogical," and "past patching," or to compare them to "monkeys in possession of a lancet." We were haled before a Cæsar whom our opponents proclaimed to be revered and august, but when he has decided in our favour he is attacked with opprobrious epithets. Surely no savage ever treated his domestic deity so harshly when luck was bad.

I am, Sirs, yours truly,

June 12th, 1893. VERAX.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Civic Honours.

THE courteous intimation which has been received here very recently from the Prime Minister to the effect that the Queen has been graciously pleased to confer on the chief magistrate of this city the title of Lord Mayor has given universal satisfaction. The present occupier of the civic chair, Mr. Marshall, is deservedly most popular in Manchester, and the congratulations he is receiving on all hands are many and sincere. The Chorlton board of guardians, at their meeting on Friday, received the news with evident satisfaction, and the clerk, Mr. Bloomfield, informed the board that immediately on his becoming aware that the honour had been conferred he at once caused the flag to be hoisted on the union offices. A resolution was passed instructing the clerk to write formally congratulating the new Lord Mayor on behalf of the board. At the same meeting it was resolved that the board should avail themselves of the recent order of the Local Government Board with reference to the celebration of the forthcoming Royal Wedding and that the poor inmates should have a treat on July 6th.

Cholera Precautions.

The drought still continues and the heat increases steadily from day to day. The health return for last week indicates that on two occasions during that period the sun-heat exceeded 124° and the maximum in the shade amounted to 81° on Friday last. But what is more important as a foreteller of coming mischief is the fact that the

earth thermometer, which is fixed at a depth of four feet from the surface, has arrived at the critical temperature of 56°. It is a well-known fact, both in Manchester and elsewhere, that as soon as the four-feet earth thermometer indicates this temperature summer infantile diarrhœa invariably becomes epidemic. Accordingly, we find the medical officer of health issuing a timely circular recommending precautionary measures against diarrhœa and cholera, and directing the public to apply at once for medical advice immediately on the occurrence of looseness of the bowels or of cramp. As in previous years, the city council have, presumably at the instance of their medical adviser, made arrangements for the gratuitous distribution of a simple form of astringent mixture to those who are unable to pay the cost of medical attendance and medicine. But the precaution has been taken to warn sufferers from bowel complaint not to rely on this simple remedy unless it is found completely efficacious after a few doses. Directions are printed on the label which accompanies each bottle of the mixture that medical aid must be promptly sought in all but the mildest and most tractable cases.

Small-pox Prevalence.

According to the latest published returns there is no increase, but rather a slight decrease, in the number of small-pox attacks reported during the past fortnight. Nevertheless, there have been twenty-five fresh cases in that interval and the area from which they are drawn is still equal to about three-fifths of the total acreage of the city. The type of the disease does not appear to become milder as the epidemic progresses; on the contrary, a considerable proportion of the reported cases are of the confluent or semi-confluent variety and the mortality amongst the unvaccinated cases is still very high. Great carelessness continues to be shown by the public in exposing themselves or their families whilst suffering from small-pox. Only a few days ago a young woman was found on her way to Monsall Hospital, whither she was going "to see whether she had the small-pox or not." The case turned out to be one of small-pox and the patient was detained. In another case, a young man who lived in one of the outlying districts and worked in a shop in the city persisted in coming into Manchester and attending to his customers, although warned by a medical man that he had small-pox and that on no account must he leave the house. This young man was summoned by the Corporation for exposing himself whilst in an infective condition; but on receipt of the summons he appears to have run away, and a warrant has accordingly been issued for his arrest.

The Scarcity of Water.

Owing to the continued drought the authorities are becoming anxious as to the condition of the water-supply. The Woodhead reservoirs are now very low, and although there are as yet many weeks' supply for drinking purposes nevertheless it has become necessary to restrict the consumption and to prohibit the use of drinking water for the swilling of courts and passages and the watering of streets. Frequent suggestions have been made lately in the local press that the new red sandstone formation which underlies the city should be bored and that the plentiful supply which is known to be derivable from that source should be brought into requisition for irrigation purposes. Already the cleansing department of the Corporation have taken measures for obtaining water for this purpose from certain establishments in the city, where pumping arrangements are already in operation. Constant complaints are still being made both in the city and its suburbs of the foul-smelling condition of the drains, sewers and water-courses, and the nuisance from these is scarcely likely to grow less unless either we are favoured with the long-sought rain or the constituted authorities bestir themselves in earnest to obtain an adequate supply of water for flushing purposes and for the purpose of watering the streets. The water obtained from the new red sandstone is not such as could be recommended for domestic use, but for the purposes above mentioned it is as well adapted as are the purest supplies from Woodhead or Thirlmere.

June 20th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Diffusion of Small-pox by Vagrants.

OUR city medical officer of health, Dr. H. E. Armstrong, in a communication to the Sanitary Committee of the Corporation has shown very clearly the connexion between the diffusion of small-pox and the movements of the vagrant population. Dr. Armstrong has taken great pains to obtain full information and facts bearing upon the matter, and the light he is thus able to throw on the subject will, no doubt, prove of great value; for instance, in replies to a question addressed to the various medical officers of health in urban districts it was elicited that in 58 per cent. of the towns in which small-pox had appeared the infection could be directly traced to vagrants. In 72 per cent. it had been carried sooner or later to towns by vagrants, and on an average about five times to each town. It had been introduced into thirty workhouses and about seventy common lodging-houses, causing a large number of fresh cases. It had been of comparatively slight prevalence in common lodging-houses when not introduced by vagrants. The disease has been carried from town to town extending over a period of two years, and it has caused during the past year between 5000 and 6000 cases, of which 1500 occurred in London. Dr. Armstrong sums up the replies he has received from medical officers of health as to how to deal with the disseminators or vagrants as follows: (1) That vagrants should be restricted in their movements of carrying infection about the country, especially in epidemic times; (2) that they should be made to report their movements; and (3) that they should be subject to detention, revaccination and disinfection when requisite.

Poisonous Plants.

Mr. F. W. Gibbon has been giving a series of lectures with specimens of poisonous plants at various schools in the Tyne district before the holidays, which cannot fail to be useful. Amongst others he showed spotted hemlock, monkshood, yew leaves, laburnum and foxglove. He also enumerated various roots and fungi.

Ambulance Work in the North.

A presentation of certificates and medallions was made on Sunday last in the offices of the North-Eastern Railway, Newcastle, to about fifty of the railway men who had received ambulance instruction. They were put through a drill and acquitted themselves to the satisfaction of all present. Preparations are being pushed forward for a great ambulance review to be held in Gosforth Park in August next. There are expected to be quite 2000 men present, and it is also hoped that the Prince of Wales will be on the ground. A novel meeting of about 1000 railway men took place in Newcastle; the men marched preceded by a band and banner to the Town Moor, where a demonstration and meeting took place against the "eye test," which they consider unfair, such as type tests and coloured wools. They ask for a practical test with the signals and lights with which they work.

Newcastle-on-Tyne, June 21st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS)

The Malodorous Liffey.

DURING the past few weeks the effluvia from the River Liffey have been unusually bad, and it has become apparent that for some time the river ought to be regularly cleansed and disinfected during the warm weather. The citizens must bear the disagreeable odours as best they may until the Dublin main drainage scheme is completed.

University of Dublin.

On the 29th inst. the University will confer the honorary degree of Doctor in Medicine upon Dr. James Little, a very distinguished and successful Dublin physician.

Death Certificates.

A medical practitioner was last week summoned before a magistrate for refusing to give a certificate of death. The defendant had prescribed for a child who died on the following day. He refused a certificate, he stated, because the child was removed to another house on the same day on which he saw her, which he believed hastened her death. He, however, it appeared, had written to the Registrar of Deaths that, in his opinion, the child had died from natural causes. The magistrate said that the notification that the defendant said he had given to the registrar was not sufficient. He held that inadvertently a breach of the law had been committed and a mitigated penalty should be imposed. He fined the defendant 10s., with £1 costs.

Illegal Detention in a Lunatic Asylum.

A singular action for damages for alleged illegal detention

in a private lunatic asylum, it is stated, will be tried during the present sittings. The plaintiff is a Mr. Irvine, respecting whose mental condition a commission *de lunatico inquirendo* was directed by the Lord Chancellor, when his sanity was established.

Timolcague Dispensary.

A sworn inquiry was recently held into the charges of neglect preferred against the dispensary medical officer of the Timoleague district. The Local Government Board wrote last week to the Dispensary Committee to the effect that in one of the cases the officer was guilty of a most serious neglect of duty and that a special meeting of the committee should be held to take into consideration the propriety of calling upon him to place his resignation in their hands. The committee have now unanimously adopted a resolution that they ought not to take the extreme course of asking their medical officer to resign, which has been forwarded to the Board for their approval.

The Thomson Memorial Home, Lisburn.

Mr. James Bruce, D.L., has sent a donation of £10,000 to the funds of this institution in memory of his late wife. It has been decided to admit additional patients, the funds of the institution being sufficient to permit of the Home being filled. Dr. Brice Smyth was appointed honorary medical officer in place of the late Mr. Samuel Musgrave.

Belfast Queen's College Union.

At a meeting of the executive committee the treasurer reported that the sum of £3600 is now subscribed and that a large amount of this has been lodged in the bank. As additional funds will be needed, it has been decided to hold a grand summer fête and fancy fair for this purpose on the College grounds in May, 1894. A committee, with Professor Letts as convener, has been appointed to set the project on foot.

North of Ireland Branch of the British Medical Temperance Association.

At the annual meeting, held in Belfast on June 20th, Mr. W. G. Mackenzie was appointed President, Dr. Killen treasurer, and Dr. Howard Sinclair secretary.

The Lord Chancellor has placed Mr. Richard Callan of Clogher Head and Mr. Callan of Ardee on the Commission of the Peace for the County Louth.

June 20th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The First Experiment in Inoculation in Russia.

ON Oct. 26th, 1768, the Empress Catherine II. (*vide* a work just published by M. Waliszewski, entitled "Roman d'une Impératrice") submitted to inoculation her own august person, being the pioneer of the practice in her own dominions. At that time this was regarded as an act of heroic self-abnegation, and Voltaire expressed his admiration of the Empress in these terms: "Sa Majesté se laisse inoculer avec moins d'appareil qu'une religieuse ne prend un lavement." The preparations for the novel function were most elaborate, the operator being an Englishman named Dimsdale, summoned expressly from London. M. Waliszewski makes the following comment on these preparations: "On fait moins d'embarras aujourd'hui pour trépanner un homme ou pour lui ouvrir les entrailles." The lymph was supplied by a boy of seven named Markof. This boy was ennobled under the fancy name of Ospiennyi (ospa = small-pox) and brought up under the Empress's own tutelage. His descendants occupy at the present day a prominent position amongst the Russian aristocracy. Mr. Dimsdale was created a Baron, appointed Councillor of State and Body Physician to Her Majesty, and allotted a pension of £500 per annum. The present Baron Dimsdale is, I imagine a descendant of our compatriot.

An Epileptic Canary.

M. Féré tells us (Société de Biologie, June 8th) that epilepsy is not unfrequently met with amongst birds. Hitherto, however, only two such examples have been recorded in detail. M. Féré has recently had under observation a canary thus affected. The attack commenced suddenly with a kind of aura, the bird extending its wings. This movement was followed immediately by a turning of the head to one side and then the animal fell. Generalised tonic spasms were then succeeded by clonic spasms, these stages being followed by a period of stupidity, often accompanied by impulsive acts. For example, the bird would peck at a table on which there was nothing to peck at. Here is seen reproduced the *tableau clinique* of a typical attack as observed in the human being. But what is particularly interesting is that the attacks were successfully controlled by the administration of bromide of potassium. This mode of medication is, it appears, quite feasible in the cage; it suffices to dissolve the salt in the drinking-water in the proportion of 1 per cent. This dose may be continued for long periods; a stronger dose induces bromism.

Lady Students at French Faculties.

There are at the present moment 131 ladies registered as students at the seven French medical faculties. Of this number ninety-five are Russians, twenty-five French, four Roumanians, two Bulgarians, two Servians, one German, one Turk and only one English. No one who has studied in Paris can avoid remarking the preponderance of the Muscovite element amongst these fair aspirants for medical honours. Englishwomen, on the contrary, are as rare as Russians are plentiful. The movement in favour of lady practitioners does not appear to find much support amongst the French. If I am not much mistaken, French lady practitioners who establish themselves in this capital become mostly absorbed into the ranks of sages-femmes or midwives, in which class they doubtless constitute a kind of aristocracy.

Professor Dieulafoy on the Early Diagnosis of Bright's Disease.

For years past M. Dieulafoy has, both at the bedside and in his much-read work on Medicine, sought to emphasise the importance of divers symptoms which, though often apparently trivial, are none the less significant of the existence of that very common malady, Bright's disease. To these symptoms he has given the name of *petite urémie* or Brightism. He regards albuminuria as an unreliable symptom of Bright's disease. In sixty cases under treatment in his wards during recent years albuminuria was absent in one-fourth. That nephritis really existed was proved in several instances post mortem. In another series of cases albumen disappeared in spite of the continued evolution of the disease. Some patients are albuminuric without being Brightic, to adopt the French expression. Amongst the symptoms of Brightism M. Dieulafoy mentions auditory troubles. These consist in whistling or more sonorous noises in one or both ears, the causes being multiple (œdema, paralysis of the acoustic nerve, pressure variations). The frequency of these noises may be judged of when it is stated that they were present in thirty-four out of sixty cases. Menière's vertigo was frequently complained of (thirteen times in sixty). Asphyxia of the extremities, first described by Maurice Raynaud, is one of the commonest symptoms of Bright's disease. This begins as formication of the hands or fingers and then the tips of the latter become bloodless, pale and numb. This dead-finger symptom is found in all the forms and in all the stages of Bright's disease. Itching, without possessing the same importance as the above, is sometimes very severe. Frequency of micturition is well known as a symptom of the disease. To this symptom M. Dieulafoy has given the name of pollakiuria to distinguish it from polyuria, many Brightics, in fact, micturating ten or twelve times a day without voiding a quantity above the normal. Cryæsthesin (κρυος = cold), or sensitiveness to cold, is a minor symptom of nephritis. It is generally confined to the lower extremities. Cramps, especially nocturnal, in the calves of the legs are sometimes severe enough to wake the patient. Epistaxis, chiefly occurring in the morning, is often significant. Electriform shocks must also be counted in this category. At the moment of falling asleep or during sleep the patient is aroused by a single violent shock recalling the effects of an electric discharge. The temporal sign is frequent. Here the temporal artery is distended, dilated and tortuous without being atheromatous. This is of course due to high arterial tension. The foregoing symptoms of Brightism, if associated in any one individual, are, according to M. Dieulafoy, sufficient to warrant the diagnosis of Bright's disease. He is convinced that many people apparently healthy are in reality Brightics, and this conviction would be shared by most practitioners did they inquire into the presence of these symptoms of Brightism. A confirmation of this diagnosis will frequently be found in the good effects of an exclusive milk diet, which causes the disappearance of these seemingly insignificant troubles. M. Dieulafoy has also applied another test—viz., the degree of toxicity of the urine passed by patients affected with Brightism. He finds that this secretion has in such cases lost a portion of its toxic properties.

June 20th.

RUSSIA.

(FROM OUR OWN CORRESPONDENT.)

Immunity from Cholera.

FROM the laboratory of Professor Podvysotski in Kief, Drs. Savtchenko and Zabolotny communicate to the *Vratch* (No. 20, 1893) the results of experiments made upon themselves and others to ascertain the possibility of rendering the human subject insusceptible to cholera. The substance used was a carbolised emulsion of dead cholera bacilli prepared as follows: A plate-culture of bacilli grown for twenty-four hours at 37° C. was rubbed up with a ½ per cent. solution of common salt. The emulsion was heated for one hour at 60° C. on the first day, for three-quarters of an hour at 60° on the second day, and for a quarter of an hour at 70° on the third day. The complete sterilisation of the fluid was proved by numerous inoculations of bouillon and agar tubes, in none of which any growth ensued. A portion of the fluid was then evaporated and the residue weighed. From this weight (*minus* the weight of the salt) the proportion of bacilli contained in the emulsion was ascertained. Carbolic acid was then added in the proportion of ½ per cent. In the first series of experiments three solutions were employed, containing respectively five, eight and eight milligrammes of dry bacteria in each gramme of the fluid. Of these progressively increasing doses from 1 c.c. to as much as 30 c.c. were injected, during a period of twenty-eight days, on twenty occasions (Dr. Z.), on seventeen occasions (Dr. S.) and on eight occasions (a student) respectively. Blood-serum taken twenty-five days later from Dr. S. and the student was injected into the abdomen of four guinea-pigs. Subsequent injections of 0·0003 gramme of a strong cholera virus produced no effect upon these guinea-pigs save a passing rise in temperature of 1° or 1½° C. A control animal which received only half the dose of the same strong virus died in twelve hours. Three other guinea-pigs inoculated with serum and which subsequently received 0·003 gramme (or ten times the dose given in the first series) all died in from twelve to sixteen hours. Complete immunity was therefore not obtained, but a relative immunity. After three daily doses of a fourth preparation (containing 12 milligrammes of bacteria to the gramme) and two doses of a fifth (containing 8 milligrammes to the gramme) Dr. Savtchenko and Dr. Zabolotny proceeded to test their own presumed immunity by swallowing a pure cultivation of cholera bacilli. After neutralising the gastric juice by taking 100 c.c. of a 1 per cent. solution of soda they each took $\frac{1}{10}$ c.c. of a bouillon culture of bacilli grown for twenty-four hours at 37° C. No symptoms whatever resulted; there was no diarrhœa; in one case, indeed, there was constipation. The dejecta were found to contain on the following day a large quantity of cholera bacilli, which were cultivated and found to have retained their characteristic fatal powers on rabbits. The bacilli were less in number on the second and third days, and on the fourth were absent from the dejecta. The conclusions arrived at by the authors are: (1) The blood serum of a person who has had a course of carbolised emulsion of dead cholera bacilli has the power of conferring immunity against cholera; (2) by this means the person himself is also protected against the action of Koch's cholera bacilli; (3) the dejecta of persons immune from cholera and who have had no symptoms of the disease may contain cholera bacilli in immense quantities and thus be an overlooked source of infection; (4) this danger is the greater from the fact that such bacilli have in no way lost their virulence. It may be added that, beyond some nervous depression, no symptoms followed the protective doses. In particular neither diarrhœa nor rise of temperature was observed.

Increased Stringency in the Public Health Laws.

A new law has just been promulgated increasing greatly the severity of the punishments for infractions of the laws relating to public health. A few of the changes may be quoted: Offences against the law relating to the prevention of epidemic and infectious diseases have hitherto been punishable by not more than one month's imprisonment or 100 roubles (say £10) fine. These maxima are now raised to three months' imprisonment and 300 roubles fine respectively. The law was formerly only applicable to offences committed during an epidemic; it will now apply equally when there is no acknowledged epidemic. Concealment of the existence of infectious disease is now punishable by a fine of 100 roubles. Wilful pollution of sources of water-supply has hitherto been punishable only by one week's imprisonment or 12 roubles fine. It may now be met with one month's imprisonment or 100 roubles fine; whilst if the pollution has rendered the water injurious to health the imprisonment and fine may be raised to three times these amounts. Similar increased stringency is shown by the new law against offences connected with the sale of food and drink and with regard to a number of other matters relating to public health.

Death of Professor Grot.

By the death of Professor Grot Russian literature and science have sustained a great loss. Historian and philologist, he was best known as a master of the Scandinavian and Slavonic languages and literature. He was President of the Imperial Academy of Sciences in St. Petersburg and a member of many learned societies.

Cholera.

In the latest returns isolated cases of cholera were reported from Viatka, Saratof, Simbirsk and Tobolsk.

St. Petersburg, June 2nd/14th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Reservoir Schemes for Upper Egypt.

THE study of the most important measure for storing Nile water at or above Assouan is proceeding steadily and satisfactorily. Seven separate schemes are being considered, and it is hoped that the Government report on them will be ready at the end of this year. It is then proposed to summon a commission of the best possible hydraulic engineers to advise upon the various engineering difficulties of the different schemes. Though it is impossible to guess now which of the propositions will be eventually chosen, it may easily be seen that the work is one of surpassing interest, and that this interest is by no means confined to Egypt.

The Pilgrimage to Mecca.

More than 32,000 pilgrims have now passed through Suez on their way to the Holy Places, half of them having come by land and the other half through the Suez Canal, only 7000 of them being natives of Egypt. The days of the great feast will be during the last week of June, and it is therefore at that time that cholera will be likely to reach its maximum height. At present nothing is known here except that cholera at Mecca was reported to Constantinople on June 8th, when there are said to have been sixty deaths. In the case of former epidemics in Arabia, Turkey has been extraordinarily late in hearing of the outbreak of cholera and no attention has apparently been paid to the epidemic diarrhœa which invariably precedes the explosion. Let us hope that this year the early information betokens the presence of more energetic sanitary inspectors on the spot. It would be to the advantage of Egypt to send her medical representative to Mecca at a much earlier date in order that he may report upon the public health of the assembling pilgrims. How long will Europe permit Turkey to defy all sanitary laws at the annual Haj? It may be assumed that Turkey, like Egypt, has no Mussulman experts on practical hygiene capable of grappling with a moving mass of 60,000 fanatics; but considering that many of the pilgrims (to say nothing of the disease itself) come from India, where there are numbers of Mahommedans trained as sanitary officials, would it be too much to expect the Indian Government to send every year medical men and hospital assistants capable of enforcing some elementary cleanliness amongst the devotees from India. This example might easily be followed by Egypt, Tunis and Morocco, and pressure could gradually be brought to bear on Turkey to improve the water-supply and conservancy arrangements. It is important to remember that during the last thirty-four years cholera has been present in Arabia at least sixteen times and has only three times been conveyed to Egypt.

THE NEW INFIRMARY AT HALIFAX.—A large number of Freemasons attended the laying of the memorial stone of this new infirmary on Saturday, June 17th, by the Earl of Mount-Edgcumbe, Deputy Grand Master of England. The Freemasons of Halifax have subscribed £5000 towards the building fund.

Obituary.

GENERAL BAROFFIO.

HEAD INSPECTOR of the Corps of Military Hygiene in the Italian army and well known as an able and independent authority on all that affects the health of the soldier, General Baroffio died in Rome on the 14th inst. at a comparatively early age. He was still a student in medicine when, in 1848, at the instance of the Provisional Government of Lombardy he fought in the ranks of young Italy against Austria—his regiment being composed of volunteers, like himself, belonging to the Scuola di San Luca. The following year he entered the Sardinian service as army surgeon. From the post of "medico di battaglione" he was promoted in 1859 to be "medico di reggimento" and greatly distinguished himself in the campaigns of that memorable year, showing equal courage and skill in relieving the wounded under fire. In 1864, in consideration of his knowledge of medico-military questions, he was deputed by the Italian Government to represent it at Geneva on the occasion of the International Congress held there to obtain "neutrality for the wounded in time of war." Four years later he was once more appointed Italian plenipotentiary at the succeeding Congress convened for the same object. From that time forward he took an energetic and prominent part in the organisation of the "Croce Rossa Italiana"—the Italian Red Cross, the present equipment and admirable efficiency of which were greatly due to his intervention. His promotion in medico-military rank now became rapid. In 1873 he was surgeon-major, in 1875 lieutenant-colonel on the army medical staff, in 1876 "colonnello medico," in 1883 inspecting member of the "Comitato di Sanità Militare" and in 1887 major-general. The post which he held at the day of his death—that of "ispettore capo della sanita militare"—was conferred on him in 1892. General Baroffio leaves behind him a large number of monographs and publications on professional—particularly medico-military—subjects, a selection of which, under competent editorship, is expected shortly to see the light.

Medical News.

THE CLAYBURY ASYLUM.—This new London County Asylum was formally opened by Mr. P. M. Martineau, chairman of the Claybury Sub-committee of the London County Council, on Saturday last, June 17th. Accommodation has been provided for 800 males and 1200 females, besides nearly 300 officers, attendants and nurses. Workshops and bathrooms, together with a large reception hall and chapel, have also been constructed for the accommodation of the inmates. The building is lighted by electricity and an isolated infectious hospital has been built for twenty patients in case of need. The cost of the new asylum when finished will be over £500,000—i.e., about £250 a bed. Previously to the opening ceremony Mr. Strong, chairman of the Asylums Committee, stated that since the year 1890 there had been a considerable increase of insanity in London; at the beginning of the present year 10,834 pauper lunatics were chargeable to the county of London.

MEDICAL DEFENCE UNION, LIMITED.—A Council Meeting was held at 429, Strand, London, on Wednesday, June 14th, 1893, Mr. Victor Horsley in the chair. The question of the desirability of continuing to admit members to life membership was discussed and it was resolved "That the fee for life membership be raised for the present to £25." 119 fresh applications for membership were received, one was rejected, one deferred for further inquiries, and 117 accepted. The following resolution was passed: "That the best thanks of this Council be given to Dr. Glover, the direct representatives on the General Medical Council, and to the other members of the special committee for the able manner in which they conducted the late inquiry into the Medical Aid Associations." Several applications were dealt with and that of a member against whom an action was threatened for alleged malpraxis in a case of puerperal fever was taken up. A local committee for Middlesbrough with Dr. Malcomson as chairman and Dr. Howell as hon. secretary was appointed.

VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION. The Queen has been pleased to confer the Order of the Hospital of St. John of Jerusalem on Surgeon-Captain Hugh Fraser Stokes, 1st City of London Rifle Volunteer Brigade and Surgeon-Captain Richard Reginald Sleman, Artists' Rifle Volunteers. The next class for the training of regimental stretcher-bearers will commence on Oct. 5th.

METROPOLITAN PROVIDENT MEDICAL ASSOCIATION.—Under the presidency of Mr. C. T. Ritchie a meeting was held on Wednesday at the house of Mr. H. A. Hamilton Hoare to consider the work effected by the agency of this association. Mr. Hoare gave an outline of the rise and progress of the society, the object of which was, he said, to enable the wage-earning class to obtain medical aid in time of sickness. Mr. Ritchie said the association was worthy of support by the public, since it promoted thrift and self-help amongst artisans and those dependent for their livelihood upon the proceeds of their daily labour.

HEALTH OF ABERDEEN.—In his monthly report for May Dr. Matthew Hay says that the temperature was above the average, whilst the daily range was considerably below. The barometric pressure was exceptionally high, and the rainfall registered was scarcely more than one-half of the average. The amount of bright sunshine was above the average, and the amount of wind movement below the average. The city is now entirely free from small-pox. There were 39 cases of measles with one death, as compared with 40 cases with one death in the previous month. There were 24 cases of scarlet fever without a death, as against 26 in the previous month, also without a death. During the last 4 months there have been 93 cases of this disease without a death. There were 4 cases of diphtheria with one death, as against 2 cases, both fatal, in the preceding month. There were 6 cases of typhoid fever without a death, as against 8 cases with 2 deaths in the previous month.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.—The summer dinner of the association took place at the Queen's Hotel, Reading, on Saturday, June 17th. In the absence of the President, Professor Cuming, the chair was taken by the President-elect, Dr. Richard Heath of St. Leonards. The Mayor of Reading and Dr. Shettle, senior physician to the Royal Berkshire Hospital, were the guests of the association, and amongst those present were Dr Mapother, Mr. O. C. Maurice (Reading), Colonel Bunbury, Surgeon-Lieutenant-Colonel Blood, A.M.S., Mr. Mayo Collier, Dr. William Hill, Mr. H. G. Armstrong (Wellington), Dr. Phillips (Reading), Dr. Davison (Bournemouth), Dr. Waring (Brighton), Dr. P. S. Abraham, Dr. Harman (Winchester), Surgeon-Major Carte (Grenadier Guards), Dr. Marriott (Reading), Dr. McCarthy (Worcester), Mr. George Stoker and Dr. Cagney, hon. secretary. The *réunion* was by common consent considered one of the most enjoyable which has yet taken place under the auspices of the association. The usual toasts were proposed and responded to, and music was furnished by an excellent band, which played during dinner and afterwards.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY, LIMITED.—The annual meeting of the members of this society was held at the Restaurant Frascati, Oxford-street, on the 15th inst., when an elaborate report was presented, being the first yearly statement submitted by the council to the supporters of the society. A prominent feature of the organisation is the establishment of numerous branches by which the central body is relieved of much of its less important business. Details are given in the report of the result of various efforts put forth by the officers of the society to weed out from the profession persons who had no legitimate claim to belong to it. These efforts have been attended with a considerable amount of success. Instances of "covering" have been brought under the notice of the officers and offenders in this respect have been warned. Other matters, such as the issue of handbills by members of the profession and the practice of sailing under false colours in the shape of unregistrable diplomas &c., form part of the report, which concludes with the copy of a resolution on the subject of "medical aid associations," in which regret is expressed that the report of the committee of the General Medical Council was not accepted by the general body of that Council. After the meeting the members of the society, with ladies and visitors, dined together under the presidency of Mr. Hutchinson.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Typhoid Fever in Turk's Island.

MR. STEPHENS has called the attention of the Under Secretary for the Colonies to the continued prevalence of typhoid fever in Turk's Island, and on Thursday, the 29th inst., he will address to him a question on the subject asking whether any steps have been taken to ascertain the local sources of infection, and whether he will influence the local authorities to cleanse the Red Salina Pond.

The Merchandise Marks Acts.

When the Committee stage is reached on the Merchandise Marks Acts (1887 and 1891) Amendment Bill Mr. Forwood, the late Parliamentary Secretary to the Admiralty, intends to move the insertion of a new clause to the effect that in the event of any person offering for sale articles manufactured abroad with his name or that of his firm marked thereon, or on the covering, there shall be added after the name the word "imported" in an equally conspicuous manner.

Stillbirths.

A Parliamentary return has been prepared giving statistical and other information with regard to stillbirths in England and other countries. It is now in the hands of the printers, and will be published shortly.

THE HOUSE OF LORDS.

FRIDAY, JUNE 16TH.

Regulation of the Hours of Labour by Railway Servants.

A rather lengthy discussion ensued on the report of amendments to the Railway Servants (Hours of Labour) Bill. It was introduced by a motion by Lord Balfour of Burleigh, who proposed to insert at the end of the first clause of the Bill an amendment providing that the Act should not apply to any servants of a railway company who were not, in the opinion of the Board of Trade, directly or indirectly engaged in the movement of traffic. The proviso was suggested on the ground of public safety in the first place, and secondly in the interest of the employés.—Lord Playfair, who had charge of the Bill, could not accept the amendment. It would be difficult to distinguish between railway servants who were and who were not engaged in the movement of traffic.—Lord Norton, the Earl of Wemyss and the Marquis of Salisbury supported the amendment, which was finally carried by a large majority. The report of amendments was then agreed to.

MONDAY, JUNE 19TH.

England's Food-supply.

Lord Winchelsea moved a resolution on this subject and spoke of the danger to which England would be exposed in the event of a war breaking out likely to interfere with her food-supply derived from abroad. He suggested the establishment in large centres of population of State granaries. After some discussion the resolution was withdrawn.

THE HOUSE OF COMMONS.

FRIDAY, JUNE 16TH.

Precautions against the Importation of Cholera.

Mr. Chamberlayne asked the First Lord of the Treasury whether, in view of the reappearance of cholera in France, he would afford facilities for discussing the question as to what precautions ought to be taken by the Government to protect our shores from the invasion of cholera.—Mr. H. Fowler, in answering the question, said the Local Government Board was the department responsible for taking the proper precautions in respect of this matter, and he believed that both the House and the country were satisfied with the steps which were taken last autumn to ensure the safety of the country against the encroachments of the disease.—In reply to a question put by Mr. H. S. Foster as to the power of a department to coerce local authorities, Mr. H. Fowler thought it inadvisable to discuss in the form of question and answer the powers of the central authority and of local boards.—A question on the same subject was put on the 20th inst. by Sir G. Baden-Powell, in reply to which Mr. H. Fowler said the Custom House authorities had been instructed to render all possible assistance to medical officers in their endeavours to carry out precautions against the importation of cholera.

MONDAY, JUNE 19TH.

Hospital Accommodation.

Mr. Talbot put a question on this subject to Mr. H. Fowler, who, in his reply, stated that he was well aware that the managers of the hospitals under the control of the Asylums Board had great difficulty in meeting the increased demand for accommodation in consequence of the large number of cases of fever at present existing in London. The Local Government Board had yet to decide upon the advisability of effecting the purchase of land at Lewisham for an asylum, and the Board were in communication with the managers on the matter, as well as with regard to the provision of temporary accommodation.

Alleged Insanitary Area in Lambeth.

Sir J. Hibbert said, in answer to Mr. Lough, that there was no insanitary area in Lambeth belonging to the Duchy of Cornwall, though there were certain houses in that parish which had been erected on land belonging to the Duchy. With that property, however, the authorities had no present power to interfere, though the Duchy had offered to coöperate as far as possible with the London County Council in effecting any improvement which might be found to be necessary.

TUESDAY, JUNE 20TH.

The Importation of Canadian Cattle.

In answer to Mr. Chaplin, Mr. Gardner, after adverting to the length of time necessary to be taken in order that full investigation might be made into the nature of the disease from which certain animals arriving from Canada were suffering, said he understood that the microscopic sections prepared by the experts were now practically ready, and a full report respecting them would be forthcoming in a few days.

Swine Fever.

A discussion, which occupied a considerable portion of the time of the House on Tuesday, was raised by Mr. Fellowes, who obtained leave to move the adjournment of the House in order to call attention to the increasing prevalence of swine fever in this country. He dwelt on the great loss inflicted on farmers and others by the neglect on the part of the Government to take adequate measures to check the disease. The local authorities had, he said, done their utmost to cope with it. A departmental committee had been appointed by the Board of Agriculture and that committee had reported in favour of the view that that Board should be the authority charged with the duty of stamping out the disease, and that compensation should be paid out of imperial funds and not out of the rates. Mr. Gardner agreed that local authorities could not effectively cope with the disease, nor, said the right hon. gentleman, could the Board of Agriculture without the coöperation of the authorities in Ireland. It was his earnest wish to deal with the question this year.

THURSDAY, JUNE 22ND.

Fever Accommodation at the Metropolitan Asylums Board Hospitals.

Mr. Cohen asked the President of the Local Government Board whether his attention had been drawn to the statement made by the Chairman of the Metropolitan Asylums Board on the 10th inst., to the effect that at the present time, on the average, about 50 per cent. only of the persons requiring admission could be dealt with; and, whether he could state the reason for this inability, seeing that the number of persons under treatment for fever and small-pox was only 2,929 and 479 respectively, as compared with the 4,389 cases of fever and diphtheria only which were received at one time in 1892, whilst the accommodation for fever and diphtheria patients at the disposal of the managers was increased in 1892 to 4663 beds.—Mr. Henry Fowler said: I have been in communication with the managers of the Metropolitan Asylums District, and am informed that the statement made by the chairman had reference only to scarlet fever and diphtheria patients. The number of beds available for these patients is less than in 1892. Last year the small-pox hospital at Gore Farm, which was intended for convalescent small-pox patients, was free for use for fever patients, and furnished 836 beds. There are now, however, 260 small-pox patients in this hospital, and consequently it is not now available for other fevers. There has also been a reduction in the accommodation in consequence of certain old temporary wards having been demolished to make way for permanent buildings which are now in course of erection, and there are others where works of repair &c. which were postponed last year have been carried out, but are not yet quite finished. I understand also that it has not been thought by the several medical superintendents expedient or safe to place so many patients in some of the wards as was done for a short time in 1892. It may perhaps be found possible before long to again admit convalescent cases to Gore Farm.

Payments to Discharged Lunatics.

In reply to Mr. Henry Hobhouse, Mr. Henry Fowler said that Section 297 of the Lunacy Act, 1890, provided that the necessary expenses attending the discharge of a pauper lunatic in an institution for lunatics should be borne by the union to which he was chargeable or by the local authority liable for his maintenance. The expenses attending the discharge of a pauper lunatic were regarded as including the cost of conveying a person to his home. When a patient was permitted by the visitors to an asylum to be absent on trial they might make an allowance to him not exceeding the charge in the asylum, but when a discharged patient was destitute there was no authority under which the visitors could provide for his maintenance until he had obtained work. The guardians, however, could give such relief as might be required as in the case of any other destitute person.

Rum in the Navy.

In reply to a question by Mr. Caine, Sir U. Kay Shuttleworth said that the Admiralty regulations were carried out and no one was compelled to take up his daily allowance of rum either on board the *Victory* or any other of Her Majesty's ships. Certain substitute rations were allowed and it was not permitted that men should sell, transfer, give or barter spirits or other intoxicating liquor. Men were punished for drunkenness, however caused, but the cases were very few.

THE COMMITTEE ROOMS.

DEATH CERTIFICATION COMMITTEE.

Completion of the Evidence.

THE Select Committee of the House of Commons on Death Certification resumed its inquiry on Tuesday, the 20th inst., Sir Walter Foster in the chair.

Dr. Hoffman, Inspector of Burial Grounds for the Home Office, examined by the chairman, said that his duty was to visit and inspect burial grounds in order to see whether the regulations of the Home Office were duly observed. These regulations provided, amongst other things, that the ground should be effectively fenced and, if necessary, underdrained to such a depth as would prevent water remaining in any grave or vault, that the grave spaces should be designated by convenient marks so that the position of each might be readily determined, that a register of the graves should be kept, and that no body should be buried in any vault or wall grave unless the coffin was air-tight. Another regulation laid down that one body only should be buried in an earth

grave at one time, which he interpreted as one day. He believed this rule was broken in many cases during epidemics when there was great pressure of business. One of his duties was to see whether there was a proper covering of earth upon the coffins. The old system of pit burial had practically disappeared. He admitted that it might obtain in some cemeteries without his knowledge. His duty as inspector did not lead him to detect those cases unless they came publicly under his cognisance at the time of his visit. He could see that the regulation as to the depth of the uppermost coffin below the surface had been observed by means of a probing iron. Bodies were frequently removed from one grave to another under an order of the Home Secretary. The removal was often rendered necessary by the carelessness of cemetery authorities in putting bodies into common instead of private graves. There was no penalty for such carelessness.

By Sir Charles Cameron: The Burial Acts gave the Secretary of State power to add to the regulations he had referred to and to make them stricter. The evidence of Dr. Greene with regard to the Forest Hill Cemetery was news to him, and, along with him and members of the Burial Board, he visited the cemetery, and as the result of his visit he had proposed a regulation that not more than eight adults or sixteen children should be placed in one grave. The Home Secretary had jurisdiction in all parishes under an Order in Council, and he might say that there were few parishes in England not under an Order in Council.

By Mr. Brookfield: He was afraid that the Forest Hill Cemetery was only one of many.

Mr. A. GRAHAM MURRAY, M.P., ex-Solicitor-General for Scotland, examined by the Chairman, said that the evidence of Mr. Thomas Shaw, M.P., with reference to the system of inquiry in Scotland into cases of sudden or suspicious deaths had occasioned great surprise amongst those acquainted with the facts of the case, and a committee of the Faculty of Advocates had observed in the course of a report on the Fatal Accidents Bill that the evidence was of a partial and misleading character. He was quite certain that his learned friend had fallen into error through inadvertence. He considered that it was quite impossible for anyone to give a correct description of the Scotch system unless he had either been upon the actual staff of the Crown Office or held the office of advocate depute. It was true that Mr. Shaw had held that office, but only in a limited sense, and he had had no connexion with the work of reporting deaths. He (Mr. Murray) had been senior advocate depute for nearly two years, he was then sheriff, and he had been Solicitor-General. He was, therefore, thoroughly familiar with the practical working of the system. He would take a case of fatal accident or sudden death. The first point of contact with any system of inquiry was more or less an accident—that was to say, it might be the police or it might be the procurator-fiscal who was the first to hear of it. He would take a case of the police hearing of the matter first. The police were bound at once to notify to the procurator fiscal the mere fact of the death. In the case of Edinburgh the ordinary form sent in by the police was this: "Edinburgh City Police.—I have to intimate that the death of ——— has been reported to the police. The cause of death is ———. The body lies at ——— awaiting your instructions." Obviously all those blanks could not in some instances be filled up. Upon this practically two investigations took place The police in their duty and in order to report to their own Chief Constable were bound to make inquiry as to the cause of death. That inquiry was put in the form of a note of what witnesses said generally. They were bound to report this to their immediate superiors, but they were also bound to give the procurator fiscal the benefit of their inquiry and there was absolutely no discretion in the police to stop an inquiry into a death because they thought it had no criminal complexion. They were bound to report to the procurator fiscal quite apart from the question whether or not in their opinion the death had a criminal complexion. The moment the procurator fiscal received notice of the fact of death, whether from the police or anybody else, he began his own inquiry. Although he received the benefit of the police report, he was bound to set off upon an independent investigation. Speaking as a Crown counsel, as an advocate depute, he said there was nothing they kept a sharper watch over than to see that the procurators fiscal were not trusting to the police, but were really examining the matter for themselves. In distant parts of the Highlands procurators fiscal really sent them the police report, and when they did that they sent it back and told them to make an independent inquiry. The matter did not and could not end even here. The procurator fiscal had no discretion as to stopping the inquiry; he was bound to send it up to the Crown Office. In some cases, especially in a case likely to be serious, he would send it up in the form of a precognition or proof, but in ordinary cases, obviously not serious, he simply put the whole thing in the form of a report. At the end of the report, however, it would be said that these facts were elicited from the examination of such and such witnesses, and very often even Crown counsel thought that the matter required a little more investigation and asked for the production of precognitions. The steps he had described would be taken in the case of a man found dead say from heart disease or apoplexy. There were no exceptions. A gentleman died in the New Club, Edinburgh, and the report came up to the Crown Office in the usual way. Lady Milne died suddenly whilst undergoing a dental operation under laughing-gas. The case came up in the ordinary way and as nearly as possible they prosecuted the dentist in the case, but they did not. They had a great deal of trouble through the administration of laughing-gas and chloroform. The advocate depute's duty was, of course, to institute proceedings if they had not already been instituted. As a matter of fact, supposing a case had a criminal complexion, and not only so, but that there was some indication who the criminal might be, the procurator fiscal would not wait to see the result arrived at by the advocate depute, but would act at once. The advocate depute was, however, always over him, and if he thought he had not acted when he ought to have then he would make him act. Besides that, the advocate depute's duty was to satisfy himself that there had been an adequate inquiry into the cause of death, and if he was not satisfied with what had been done it was his duty to send back the papers and they were sent back every day. A considerable amount of time, no doubt, might elapse between the date of the death and the receipt of the papers. If there was undue delay, then the advocate depute could call the procurator fiscal to account. If an advocate depute kept up to his work, he sent back his deaths next morning. It was quite possible that a body might be buried before the death reached the cognizance of the Crown Office, but he believed that to be possible under any theory or system of law, unless they laid it down that the body could not be buried until the inquiry was completed. The procurator fiscal had a large discretion with regard to the holding of post-mortem examinations, but here again he was subject to revision by the advocate depute. There were many cases in which papers had been sent back with orders that there should be a post-mortem examination. The Secretary for Scotland had power to exhume bodies and as a matter of fact had exercised this power in many instances. The procurator fiscal was not biased in any way with regard to post-mortem examinations, except from the ordinary sort of Treasury feeling that came over every public official of saving expense. All these proceedings he had described and all the records of them were kept private and secret in the hands of the Lord Advocate. He personally did not see why there should be a rigid rule against the communication of the practical results which had been arrived at. That, however, was going into another branch of the subject. What he wished to make out was that the present system was an efficient system, and he might remind the Committee that efficiency and publicity were not synonymous terms. He did not believe that there was any real feeling in Scotland against the present system, with this exception that he believed that there was amongst the industrial classes a certain amount of feeling in favour of a public inquiry into accidents that happened in industrial employments—that was to say, he believed that the Bill of the Lord Advocate was backed by a certain amount of public feeling. He did not think that public inquiry would add to efficiency. This public inquiry was looked to as a sort of preliminary inquiry to see whether there was any civil liability. All he had said as to sudden deaths applied *mutatis mutandis* to cases of serious accident. The procurators fiscal were bound to report upon all serious accidents and upon all fires. After the advocate depute had considered the report and satisfied himself that the inquiry had been adequate and that no criminal proceedings were necessary he wrote upon the back of it "No proceedings," which meant no criminal proceedings, not no inquiry. He also revised the schedule for the registrar and he saw that there was correctly inserted in it the cause of death. The schedule was then sent to the registrar and if the registrar had already had the death registered, which was probable, he if necessary corrected the entry by the insertion of the cause of death as given him by the advocate depute. If criminal proceedings were necessary they must get hold of someone who they conceived had done the crime. In most cases he would probably have already been apprehended by the police or under the orders of the procurator fiscal. Then the procurator fiscal prepared the case for trial, taking a regular precognition of all the witnesses. These precognitions were sent to the advocate depute, who then judged whether or not there was a case against the man. If he was in a difficulty he applied for assistance to the Lord Advocate or the Solicitor-General, and if he thought there was no case he could give an order to liberate the person in charge. The number of inquiries conducted as he had described in 1892 was 3719, made up as follows: Mining deaths, 108; mining accidents, 19; other accidents, 57; and ordinary sudden deaths, 3535. Out of these cases the number where criminal proceedings took place would be very small indeed. If they took the Scotch population and these 3719 investigations and compared them with the English population and the number of inquiries conducted by coroners he would be very much surprised if they did not find that the Scotch system practically disclosed more investigation than the English system. Whereas in England the coroner decided for himself whether a public inquiry was necessary, in Scotland they had all these cases going through the three hands in the manner he had described. As regarded secret inquiry not leading to publicity, he thought there was, if anything, a greater guarantee under the Scotch than under the English system.

By Sir Charles Cameron: He thought there might be some relaxation of the rule against disclosing information. Results might be communicated, but he did not think any office should allow its papers to be ransacked. Honestly, he did not think that a public inquiry would elicit facts a general knowledge of which would prevent accidents. This sounded well, but really did not come to much. He believed that workmen learned in practical experience more about the machinery they used than could possibly be learnt from a public inquiry. He approved of public inquiry in such a case as the accident to the *Daphne* in the Clyde some years ago. He was in favour of the principle of the Bill now before Parliament; he only meant that he did not think it would act in the way Sir Charles Cameron had suggested in his question. No doubt in many cases post-mortem examinations had not taken place because of the feeling of stinginess exhibited by the Treasury. There was a pulling in two ways. Whilst, on the one hand, there was always a tendency towards economy in public departments, on the other there was a feeling that medical men wanted the fees, and common sense had to judge between the two. He considered that the present system of private preliminary inquiry was practically as efficient as a system of public inquiry, and when they came to criminal matters it had there been an enormous advantage.

By Mr. Heywood Johnstone: He could give a very strong instance from his own experience. It was a case of murder and rape in Linlithgowshire, and they would certainly not have obtained a conviction had there been a public preliminary inquiry.

By the Chairman: He never heard of an inspector of burial grounds in Scotland. There was nothing to prevent a man being buried in his own grounds. The question of burial grounds in Scotland was part of the general law of public health, and it would be the public health authorities who would interfere in such a matter. Prosecutions for concealment of pregnancy were common in Scotland. Practical juries no doubt avoided verdicts of child murder by finding the accused guilty of the statutory crime of concealment of pregnancy. There were many cases in which, speaking the whole truth, the woman had been guilty of murder, but they very seldom obtained a verdict of that kind. No facts had come to his knowledge which would justify him in saying that there was much crime in Scotland covered by the burial as still-births of children who had been born alive. He wished to explain, in conclusion, that the sheriff was the executive head of the police, and if the advocate depute found that the police were not doing all he wanted then he went to the sheriff and the latter exercised his powers.

This concluded the evidence which the Committee propose to take. They will now proceed with the drafting and consideration of their report.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

CARTER, EUSTACE G., M.R.C.S. Eng., has been appointed Medical Officer of the Industrial School, Moor Allerton, Leeds, vice Nevitt, resigned.

DASHWOOD, E. S., M.R.C.S., has been appointed Medical Officer for the Third Sanitary District of the Aylsham Union.

EDGEWORTH, F. H., M.B., B.C.Camb., B.Sc.Lond., has been appointed Assistant Physician to the Bristol Royal Infirmary.

HOLDEN, J. S., M.D.Irel., L.R.C.S.Edin., has been reappointed Medical Officer of Health for the Borough of Sudbury.

PIGGOTT, EDWARD ALFRED, L.R.C.P., L.R.C.S.Edin., L.S.A.Lond., has been appointed (subject to the approval of the Local Government Board) Medical Officer and Public Vaccinator for the Parish of Stoke-next-Clare, Suffolk (the said parish having been transferred from the First to the Second Sanitary District of the Risbridge Union), vice Hargrave, resigned.

READ, SIBLEY W., L.D.S.R.C.S., has been appointed Assistant Dental Surgeon to the National Dental Hospital.

SHAW-MACKENZIE, J. A., M.B.Lond., M.R.C.S., has been appointed Physician to Out-patients to the Chelsea Hospital for Women, vice Dr. Fenton, promoted full Physician.

SKAE, F. M. T., M.B., C.M.Edin., has been appointed Junior Assistant Medical Officer to the Stirling District Asylum, Larbert.

YONGE, EUGENE S., M.B., C.M.Edin., has been appointed House Surgeon to the Manchester Southern and Maternity Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BOROUGH OF CREWE.—Medical Officer of Health. Salary £200 per annum. Applications to the Town Clerk, Municipal Offices, Exchange-street, Crewe.

BRISTOL DISPENSARY.—Vacancy in the Medical Staff.

CENTRAL LONDON OPHTHALMIC HOSPITAL, 238, Gray's-inn-road.—House Surgeon. Rooms, coals and lights provided.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Honorary Pathologist.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Physician to Out-patients.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Assistant Physician.

CROYDON GENERAL HOSPITAL.—House Surgeon, for two years. Salary £100, increasing £10 per annum up to £120, with board and residence in the hospital.

EAST LONDON HOSPITAL FOR SICK CHILDREN, Glamis-road, Shadwell, E.—House Surgeon. Board and lodging provided.

EAST PRESTON UNION.—Medical Officer for the No. 2A District of the Union. Salary £90 per annum, with the usual extra allowances. Applications to the Clerk to the Guardians, Littlehampton.

ESSEX AND COLCHESTER GENERAL HOSPITAL, Colchester.—House Surgeon. Salary £100 per annum, with board and lodging in the hospital.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—Assistant Physician.

HOXTON HOUSE ASYLUM, London, N.—Locum Tenens for four weeks from July 1st.

KING'S COLLEGE HOSPITAL, London.—Anæsthetist.

MIDDLESEX HOSPITAL MEDICAL SCHOOL.—Lecturer in Chemistry.

MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—House Surgeon. Salary £80 per annum, with board, lodging &c. Applications to Hon. Secretary, 5, Bedford-terrace, Sunderland.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Assistant Physician.

ROYAL PIMLICO DISPENSARY.—Attending Medical Officer. Applications to the Secretary, 104, Buckingham Palace-road, S.W.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE, E.C.—Demonstrator of Chemistry, and also Assistant Demonstrator of Chemistry.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE, E.C.—Demonstrator of Physiology.

TUNBRIDGE WELLS GENERAL HOSPITAL.—Resident House Surgeon and to act as Secretary. Salary £100 per annum, with board, furnished apartments in the hospital, gas, firing and attendance.

UNIVERSITY COLLEGE, London.—Assistant House Surgeon.

Births, Marriages and Deaths.

BIRTHS.

ADAM.—On June 15th, at Malling-place, West Malling, Kent, the wife of James Adam, M.D., of a daughter.

BINNIE.—On June 12th, at Meadowfield House, Brandon, Durham, the wife of R. M. G. Binnie, M.D., C.M., of a daughter.

BLAIR.—On June 21st, at Kew Gardens, Surrey, the wife of Charles Blair, M.D., M.R.C.S.Eng., of a son.

CODNER.—On June 10th, at Woodside, Corfe, Somersetshire, the wife of John Codner, M.B., C.M.Edin., of a son.

HABERSHON.—On June 18th, at 70, Brook-street, Grosvenor-square, W. the wife of S. H. Habershon, M.D., F.R.C.P., of a son.

MARRIAGES.

BELL—DOBIE.—On June 20th, at the parish church, Keir, Dumfriesshire, Robert Bell, M.D., F.F.P.S.Glasg., to Mary Allan Dobie of Nether Culzean, Ayrshire, N.B.

CARROL-OTWAY—SINCLAIR.—On June 17th, at St. Mary's Church, Wimbledon. Alfred Carrol-Otway, M.R.C.S., L.M.R.P., second son of the late Charles W. Carrol-Otway, L.R.C.P., to Annie Sinclair of New York, Lincolnshire.

HUTCHINSON—TERRY.—On June 14th, at Tostock, Roger Jackson Hutchinson, M.R.C.S., son of Jonathan Hutchinson, Esq., F.R.S., of 15, Cavendish square, London, to Eleanor, daughter of the Rev. Charles Terry of Tostock Hall, near Bury St. Edmunds.

INGLIS—BASLEY.—On June 14th, at St. Stephen's Church, South Dulwich, Walter William Inglis, M.D., of The Lodge, Sydenham-hill, to Anne Basley of Cadogan House, Gipsy-hill.

SQUARE—MULLINS.—On June 14th, at the parish church, Midhurst, James Elliot Square, F.R.C.S., of 22, Portland-square, Plymouth, to Mary Louisa, younger daughter of Lieutenant-General J. Mullins, late R.E., of Heatherwood, Midhurst.

UMNEY—CARTER.—On June 20th, at St. George's, Bloomsbury, William Francis Umney, M.D.Lond., M.R.C.S., of Heatherbell, Crystal Palace-park-road, Sydenham, to Beatrice Ethel, third daughter of the late J. Cloane Carter, of 31, Bedford-square, London.

WELCH—TUCKWELL.—On June 14th, at Stockton, Rugby, George Welch, Surgeon Royal Navy, to Rosa, eldest daughter of the Rev. William Tuckwell, Rector of Stockton.

DEATHS.

BLACKETT.—On June 18th, at Wangford, Suffolk, Edward Ralph Blackett, M.D., aged 58.

MARSHALL.—On June 18th, at 26, Winckley-square, Preston, after a few hours' illness, Andrew Marshall, M.D., J.P., aged 52.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages and Deaths.

BOOKS ETC. RECEIVED.

BRUCK, L., Castlereagh-street, Australia.
On Snake-poison: its Action and its Antidote. By. A. Mueller, M.D. 1893. pp. 85.

CLOWES, WM., & SONS, Charing-cross, London, S.W.
National Leprosy Fund. Report of the Leprosy Commission in India 1890-91. 1893. pp. 456. Price 5s.

CHURCHILL, J. & A., New Burlington-street, London.
The Westminster Hospital Reports. Edited by R. G. Hebb, M.A., M.D., F.R.C.P. Vol. VIII. 1893. Price 6s.

MACMILLAN & CO., London.
Decipherment of Blurred Finger Prints. By F. Galton, F.R.S. 1893. Price 2s. 6d.

NEWMAN & CO., Newman-street, London, W.
An Introduction to Scientific Chemistry. By F. S. Barff. Revised by Temple Orme. New Edition. 1893. pp. 200.

PUTNAM'S, G. P., SONS, London and New York.
The Meaning and the Method of Life; a Search for Religion in Biology. By G. M. Gould, M.D. 1893. pp. 297. Price 9s.
The Law of Psychic Phenomena. By Thomson J. Hudson. pp. 409. Price 7s. 6d.

PENTLAND, YOUNG J., London and Edinburgh.
Edinburgh Hospital Reports. Edited by G. A. Gibson, M.D., D.Sc., and Others. Illustrated. Volume First. 1893. pp. 620.

SAMPSON LOW, MARSTON & CO., Fleet-street, London.

Hic et Ubique. By Sir William Fraser, Bart. 1893. pp. 317.

Guide to Health in Africa, with Notes on the Country and its Inhabitants. By T. H. Parke, Hon. D.C.L., Hon. F.R.C.S. Irel., with Preface by H. M. Stanley.

SWAN SONNENSCHEIN & CO., London.

Medical Electricity: What is it, and How does it Cure? By E. S. D'Odiardi. 1893. pp. 67.

VOGEL, F. C. W., Leipzig.

Atlas der Pathologischen Gewebelehre in Mikrophotographischer Darstellung. Herausgegeben von Drs. C. Karg und G. Schmorl. Mit einem Vorwort von Dr. F. V. Birch-Hirschfeld. 1893.

WRIGHT, J., & CO., Bristol; SIMPKIN, MARSHALL & CO., London.

The Disease of Inebriety from Alcohol, Opium and other Narcotic Drugs, arranged and compiled by the American Association for the Study and Cure of Inebriety. 1893. pp. 394. Price 6s.

Disinfectants and Antiseptics: by Edward T. Wilson, M.B.Oxon., F.R.C.P.Lond.; twenty-fifth thousand (H. K. Lewis, Gower-street, London); 1s. per dozen.—Beitrag zur Wirkung des Trionals; Inaugural-Dissertation von Dr. Heinrich Koppers (P. Scheiner. Würzburg, 1893).—Movable Kidney; with a Report of Twelve Cases treated by Nephrorrhaphy: by G. M. Edebohls, M.D. (New York, reprint).—A Forest Poem: by R. T. Cooper, M.D. (D. Stott, Oxford-street, London); price 6d.—Electric Light and Power; a short Treatise on their Advantages and Applications (the Electrical Installation Company, Victoria-street, Westminster); price 1s.—L'Orviétan: Histoire d'une Famille de Charlatans du Pont-Neuf aux XVIIème et XVIIIème Siècles: par Docteur Le Paulmier (Librairie Illustrée, Paris).—Income Tax; how to Get it Refunded: by Alfred Chapman; Ninth Edition (E. Wilson and Co., London, 1893-94); price 1s. 6d.—Metropolitan Asylums Board Report for the year ended March 25th, 1893 (McCorquodale and Co., London).—Trephining for Basal Hæmorrhage in a Woman at the Point of Death; Recovery: by Andrew Smart, M.D., F.R.C.P.Edin.; reprint (Y. J. Pentland, Edinburgh, 1893).—The Journal of Pathology and Bacteriology: by G. S. Woodhead, M.D., and Others, June, 1893 (Y. J. Pentland, Edinburgh and London).

Medical Diary for the ensuing Week.

Monday, June 26.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays, at the same hour.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; and on Tuesday, Wednesday, Friday, and Saturday at the same hour.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2.30 P.M.; Friday, 2 P.M.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M.; and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2 P.M.; Thursday, 2 P.M.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.; and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL. Ear and Throat Department, 9 A.M.; Thursday, 9 A.M. Eye Department, 2 P.M.

LONDON POST-GRADUATE COURSE.—Royal London Ophthalmic Hospital: 1 P.M., Mr. W. Lang: Diseases of the Iris.

Tuesday, June 27.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 1.45; Saturday, 9.15.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electrotherapeutics, same day, 2 P.M.

Wednesday, June 28.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.

CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M.; Thursday and Saturday, same hour.

ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M. Dental Department, 9.30 A.M. Eye Department, 2 P.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, June 29.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.

Friday, June 30.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.

Saturday, July 1.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

THE VENTILATION OF THE HOUSE OF COMMONS.

THE Courts of Justice in this country have afforded from time to time abundant food for critics in sanitary matters. The House of Commons is said to be even worse off in that respect. It has several times formed the subject of hostile criticism in reference to its lighting, heating and ventilation. Committees of experts and com-

missions of inquiry have every now and again been appointed "to inquire into the subject" and have made recommendations which have been duly carried out. Electric lights have been supplied, purified air has been admitted; it nevertheless appears, from a question which Mr. Henry Hobhouse addressed to Mr. Shaw-Lefevre on Thursday last, that many of the members of the House still suffer from "lassitude." The cause of this is attributed to "manure and dirt from the streets brought in by their boots and then they breathe this re-polluted air." Mr. Hobhouse very pertinently asks, "if the authorities of the House can advise some means of saving the purified air from being thus re-polluted." This is indeed a difficult problem and not to be solved offhand. The right hon. gentleman to whom the question was addressed replied that the House was a certain distance from the streets, a large number of mats were already provided and he did not think much "dirt or manure" could be brought in, at any rate on members' boots. Further he reassured the House that the floor covering is taken up once a week and that the ventilating chamber is dusted every day. If members, therefore, suffered from "lassitude" in attending the House of Commons he did not think it attributable to the atmosphere of the House. It is obvious that there are many soporifics and sedatives other than "re-polluted" air which might induce in the long-suffering members of the House of Commons the condition referred to by the questioner.

DENHOLM TESTIMONIAL FUND.

THE following subscriptions have been received since the publication of the "first list" (THE LANCET, May 6th, 1893). The object of the fund is to present Dr. Denholm with a tangible expression of the sympathy of his professional brethren with his conduct in the matter of the action Denholm *v.* Tait. Dr. Denholm's costs in the action, which terminated by mutual consent in the withdrawal of a juror, amounted to over £300. Further subscriptions will be received by either of the hon. secretaries to the fund — Mr. Charles Fegen, M.R.C.S., Brandon, Suffolk, and Mr. Alex. G. R. Foulerton, M.R.C.S., 122, Brompton-road, London, S.W. Cheques and postal orders should be made payable to the "Denholm Testimonial Fund" and crossed "Messrs. Gurney and Co." Subscriptions may also be paid in direct to the "Denholm Testimonial Fund" at Messrs. Gurney and Co., Thetford, Norfolk, or at any other branch of the same bank.

Amount already acknowledged	£28	4	6	"K"	£0	10	6
Sir W. MacCormac ..	0	10	6	Mr. J. Lawford	0	5	0
Anonymous	1	1	0	Dr. Inglis Parsons.. ..	1	1	0
Dr. William Duncan ..	1	1	0	Dr. Felix Semon	2	2	0
Dr. Walter Edmunds ..	1	1	0	Dr. Herbert Spencer ..	0	10	0
Mr. Adams Frost	1	1	0	Mr. Sworn..	0	5	0
Dr. Walter Griffiths ..	1	1	0	Mr. Tweed	0	5	0
Dr. Wharton Hood ..	1	1	0	Dr. J. Watson	0	5	0
Dr. Peter Horrocks ..	1	1	0	Mr. Weston	0	10	6
Dr. Horace Johnson ..	0	10	0	Mr. Alfred Willett ..	2	2	0
				Dr. Thomas Whipham..	1	1	0

"TRICYCLES FOR PRACTITIONERS."

To the Editors of THE LANCET.

SIRS,—In reply to your correspondent, "G. P.," on this subject I would refer him to Mr. Dyer, Inflexible Cycle Works, Battersea R e. He has built me a beautifully light machine, which was much admired at the Show, with extended wheel base. I would recommend Carter's chain case and Cook's pneumatic tyres.

I am, Sirs, yours faithfully,

Harley-street, W., June, 1893. HEYWOOD SMITH.

"THE PROPER SENTIMENT TOWARDS NEW-COMERS."

Enquirens.—Our correspondent would be acting a magnanimous and neighbourly part in the course he proposes. It would give him also an opportunity of explaining his action in the case described. The accounts of such matters by patients are not always very accurate or conciliatory.

Messrs. Armour and Co. should communicate with Dr. Makins, the organising secretary in England.

R. S. M.—We have no knowledge of the person named in our correspondent's communication.

WANTED A "HALLUCOLOGIST."

A LAY CORRESPONDENT addresses a request to us in the following terms:—

"June 19th, 1893.

"DEAR SIRS,—Pray pardon me for asking, but I thought you would know better than anyone else—viz., Can you inform me the name of the best surgeon for enlarged toe joints, one who makes it a speciality to deal with the inflammation of the toe joints and swelling underneath the foot? I enclose a stamp, as perchance you may know of some clever specialist. I have others, but seem no good.

"Yours truly,

"_____."

Hemera.—1. A distance of eighteen miles makes such a question more difficult than in the case of near neighbours; but the principles of professional amenity are the same and do not cease to operate even in such circumstances. As our correspondent has with prompt courtesy handed the case over to his distant neighbour we should advise him also to transmit the fee. A nice question will then arise for A to settle. He should have no difficulty with it; but that is not the question on which our opinion is asked.—2. In the second case we are disposed to think that our patient's action, though natural, was not quite so perfect as in the first case. It is right not to allow rumours of a neighbour's ill-conduct to others to influence us too much; rather to give him the benefit of a doubt and the chance of behaving differently to ourselves.

Mrs. Ogg is referred to the law reports in *The Times* of Monday, particularly to the judge's utterance.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 22nd, 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
June 16	30·11	E.	69	66	126	87	59	..	Hazy
,, 17	30·29	S.E.	74	64	126	89	62	..	Hazy
,, 18	30·41	E.	71	62	123	84	62	..	Bright
,, 19	30·11	S.E.	68	62	126	89	59	..	Hazy
,, 20	29·85	E.	58	58	91	66	58	..	Raining
,, 21	29·87	W.	58	56	90	68	54	..	Overcast
,, 22	29·66	S.W.	64	58	100	70	54	..	Cloudy

PUBLISHER'S NOTICE.

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged to publish duplicate copies of the Index to each half-yearly volume in a form in which they may be subsequently filed or bound together. Those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET.

During the week marked copies of the following newspapers have been received:—*Evening Star* (*Washington*), *Electrical Review*, *American Architect*, *Cork Examiner*, *Derby Reporter*, *South Wales Daily News*, *Pullen's Kent Argus*, *Thanet Advertiser*, *Liverpool Daily Post*, *Yorkshire Post*, *Leeds Mercury*, *Bristol Mercury*, *South-Eastern Gazette*, *Times of India*, *Pioneer Mail*, *Birmingham Mail*, *City Press*, *Hertfordshire Mercury*, *Mining Journal*, *Local Government Chronicle*, *Reading Mercury*, *Weekly Free Press and Aberdeen Herald*, *Daily Argus* (*Birmingham*), *West Middlesex Standard*, *Lincolnshire Chronicle*, *West Middlesex Advertiser*, *Builder*, *Stratford Express*, *Local Government Journal*, *Architect*, *Sunday Times*, *Surrey Advertiser*, *Kendal and County News*, *Eastbourne Gazette*, *Melbourne Age*, *News*, *Inventions*, *Pall Mall Gazette*, *Building News*, *Irish Times*, *New York Observer*, *Alliance News*, *Citizen*, *Scotsman*, *Evening Telegraph* (*Dundee*), *Evening Citizen* (*Glasgow*), *Elgin Courant*, *Le Temps* (*Paris*), *Carlisle Express*, *Tamworth Herald*, *Durham Chronicle*, *Strathearn Herald*, *Sunderland Herald*.

Communications, Letters &c. have been received from—

A.—Dr. A. G. Auld, Glasgow; Dr James Adams, London; A., London; A. F.

B.—Sir James Crichton Browne, London; Dr. C. Barker, London; Mr. L. E. Barnett, Dunedin; Mr. R. A. Billiald, Kington; Messrs. Battle and Co., Neuilly-sur-Seine; Messrs. Blondeau et Cie., London; *Birmingham Daily Post*, Proprietors of; Burton-on-Trent Infirmary, Hon. Secretary of.

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U.—Union, London.

V.—Mr. J. W. Vickers, London; Veraix.

W.—Dr. F. J. Waldo, London; Mr. W. E. Wright, London; Messrs. Wright, Dain and Co., Birmingham; Messrs. Whitworth and Stuart, Manchester.

Z.—Z. A., London.

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